State of New Mexico
Energy, Minerals and Natural Resources Department

New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 9/20/2016
Well information;
Operator Encana, Well Name and Number Venado Canyon Unit 204H

API# 30-043-21290, Section 12, Township 22 N/S, Range 6 E/W

Conditions of Approval: (See the below checked and handwritten conditions)

- ~~o~~ Notify Aztec OCD 24hrs prior to casing & cement.
- ~~o~~ Hold C-104 for directional survey & "As Drilled" Plat
- o Hold C-104 for NSL, NSP, DHC
- o Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- o Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
  - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
  - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
  - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- o Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- o Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ✓ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ✓ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ✓ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Chad Hoen
NMOCD Approved by Signature

3-28-2017
Date

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3441 • Fax (505) 476-3462 • www.emnrd.state.nm.us/ocd

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Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM 109385

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No.
VENADO CANYON UNIT / NMNM135367A

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
VENADO CANYON UNIT 204H

2. Name of Operator
ENCANA OIL & GAS (USA) INC

9. API Well No.
30-043-21290

3a. Address
370 17TH STREET, SUITE 1700 DENVER CC

3b. Phone No. *(include area code)*
(720)876-5331

10. Field and Pool, or Exploratory
Wildcat

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface M NWSW / 1335 FSL / 163 FWL / LAT 36.14843 / LONG -107.428797

At proposed prod. zone G SWNE / 2120 FNL / 2400 FEL / LAT 36.138895 / LONG -107.41993

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 12 / T22N / R6W / NMP

14. Distance in miles and direction from nearest town or post office*
59.3 miles

12. County or Parish
SANDOVAL

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
2400 feet

16. No. of acres in lease
1440

17. Spacing Unit dedicated to this well
5280

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
30 feet

19. Proposed Depth
5361 feet / 9915 feet

20. BLM/BIA Bond No. on file
FED: COB000235

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
7040 feet

22. Approximate date work will start*
02/01/2017

23. Estimated duration
20 days

OIL CONS. DIV DIST. 3
MAR 20 2017

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature
(Electronic Submission)

Name *(Printed/Typed)*
Katie Wegner / Ph: (720)876-3533

Date
09/20/2016

Title
Regulatory Analyst

Approved by *(Signature)* B Mankiewicz

Name *(Printed/Typed)*

Date
3/16/17

Title
AFM

Office
FARMINGTON

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

NMOCD

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-043-21290	42289	LYBROOK GALLUP

4 Property Code	5 Property Name	6 Well Number
316075	VENADO CANYON UNIT	204H

7 OGRID No.	8 Operator Name	9 Elevation
282327	ENCANA OIL & GAS (USA) INC.	7040.4'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/West line	County
M	12	22N	6W		1335'	SOUTH	163'	WEST	SANDOVAL

11 Bottom Hole Location If Different From Surface

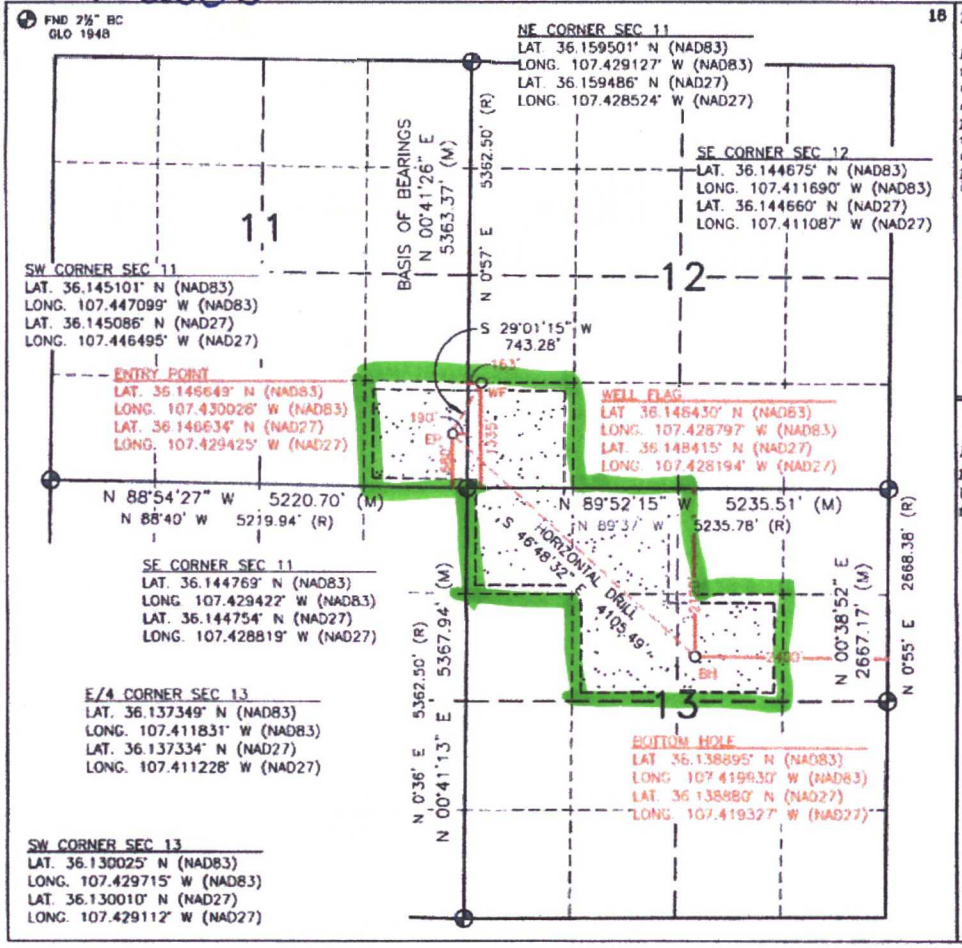
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	WEST/West line	County
G	13	22N	6W		2120'	NORTH	2400'	EAST	SANDOVAL

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
PENETRATED SPACING UNIT: SE/SE SEC 11 (40 ACRES), SW/SW SEC 12 (40 ACRES), & N2/NW, SE/NW & SW/NW SEC 13 (160 ACRES) ~~3200.00 ACRES - E/2 SEC. 2, E/2 & NE/4 SEC. 10, ALL SEC. 11, 14, N/2 SEC. 23, N/2 SEC. 24, T22N R6W UNDIVIDED UNIT~~			R-14067A (5,280 acres)

SW/NE Sec 13

Total 240 acres

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



18

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 09/26/16 Date

Katie Wegner
Printed Name

katie.wegner@encana.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MARCH 30, 2016
Date of Survey

Signature and Seal of Professional Surveyor:

HENRY P. BROADHURST
NEW MEXICO
11393
09/23/2016
PROFESSIONAL SURVEYOR

Certificate Number 11393

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State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

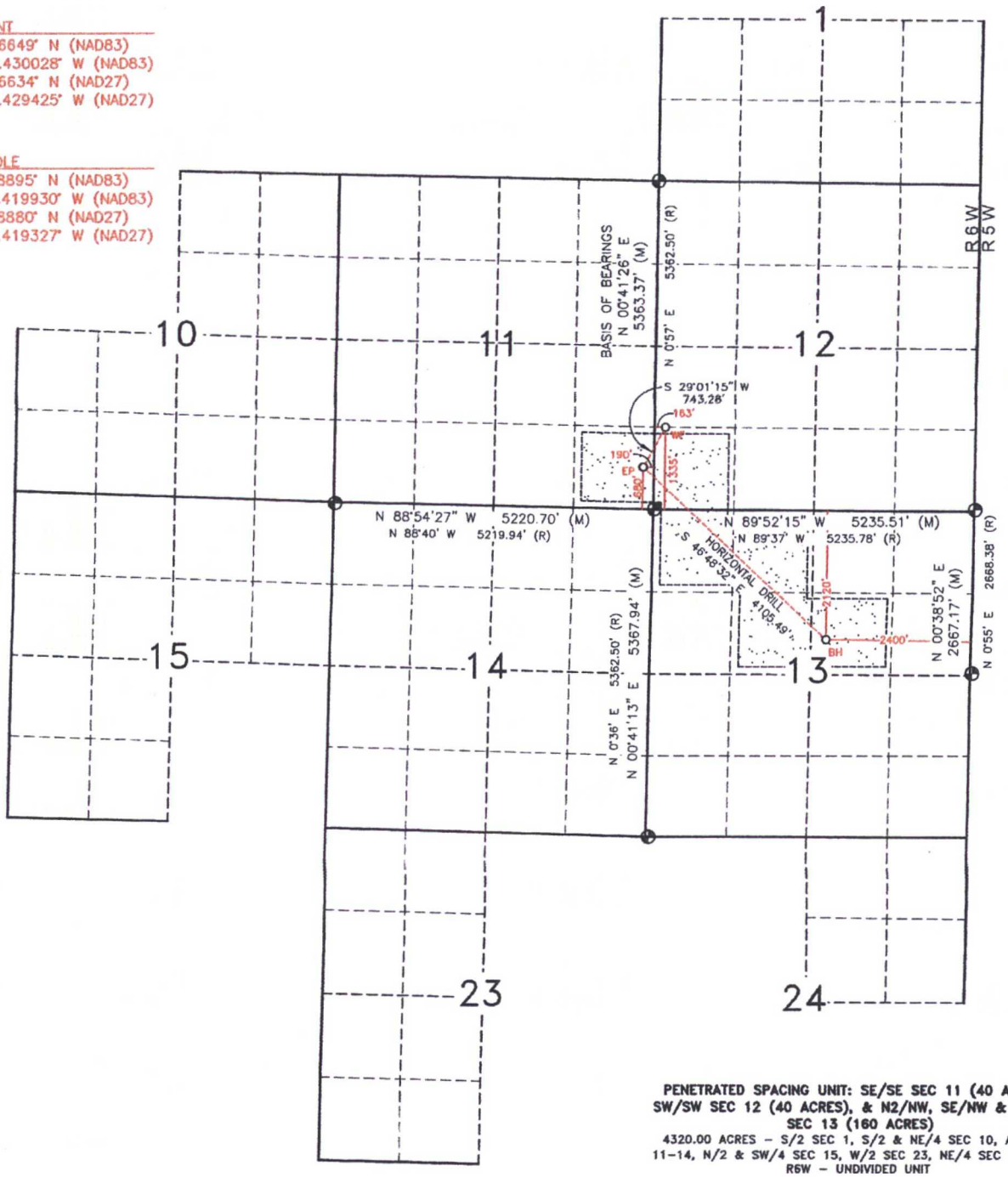
☐ AMENDED REPORT

ENCANA OIL & GAS (USA) INC.
VENADO CANYON UNIT #204H

WELL FLAG
LAT. 36.148430° N (NAD83)
LONG. 107.428797° W (NAD83)
LAT. 36.148415° N (NAD27)
LONG. 107.428194° W (NAD27)

ENTRY POINT
LAT. 36.146649° N (NAD83)
LONG. 107.430028° W (NAD83)
LAT. 36.146634° N (NAD27)
LONG. 107.429425° W (NAD27)

BOTTOM HOLE
LAT. 36.138895° N (NAD83)
LONG. 107.419930° W (NAD83)
LAT. 36.138880° N (NAD27)
LONG. 107.419327° W (NAD27)



PENETRATED SPACING UNIT: SE/SE SEC 11 (40 ACRES), SW/SW SEC 12 (40 ACRES), & N2/NW, SE/NW & SW/NW SEC 13 (160 ACRES)
4320.00 ACRES - S/2 SEC 1, S/2 & NE/4 SEC 10, ALL SEC 11-14, N/2 & SW/4 SEC 15, W/2 SEC 23, NE/4 SEC 24, T22N R6W - UNDIVIDED UNIT

Venado Canyon Unit 204H
SHL: SW/4 SW/4 Sec 12 T22N R6W, 1335' FSL, 163' FWL
BHL: SW/4 NE/4 Sec 11 T22N R6W, 2120' FNL, 2400' FEL
Sandoval, New Mexico
Lease Number: NMNM 117562 & NMNM 109390

Encana Oil & Gas (USA) Inc.
Drilling Plan

1. ESTIMATED TOPS OF GEOLOGICAL MARKERS (TVD)

The estimated tops of important geologic markers are as follows:

Formation	Depth (TVD) units = feet
San Jose Fn.	n/a
Nacimiento Fn.	surface
Ojo Alamo Ss.	1,385
Kirtland Shale	1,482
Fruitland Coal	1,669
Pictured Cliffs Ss.	1,878
Lewis Shale	1,986
Cliffhouse Ss.	2,710
Menefee Fn.	3,404
Point Lookout Ss.	4,105
Mancos Shale	4,283
Mancos Silt	4,860
Gallup Fn.	5,145
Base Gallup	5,474

The referenced surface elevation is 7040', KB 7056'

2. ESTIMATED DEPTH OF POTENTIAL WATER, OIL, GAS, & OTHER MINERAL BEARING FORMATIONS

Substance	Formation	Depth (TVD) units = feet
Water/Gas	Fruitland Coal	1,669
Oil/Gas	Pictured Cliffs Ss.	1,878
Oil/Gas	Cliffhouse Ss.	2,710
Gas	Menefee Fn.	3,404
Oil/Gas	Point Lookout Ss.	4,105
Oil/Gas	Mancos Shale	4,283
Oil/Gas	Mancos Silt	4,860
Oil/Gas	Gallup Fn.	5,145

All shows of fresh water and minerals will be reported and protected.

Venado Canyon Unit 204H
SHL: SW/4 SW/4 Sec 12 T22N R6W, 1335' FSL, 163' FWL
BHL: SW/4 NE/4 Sec 11 T22N R6W, 2120' FNL, 2400' FEL
Sandoval, New Mexico
Lease Number: NMNM 117562 & NMNM 109390

3. PRESSURE CONTROL

a) Pressure control equipment and configuration will be designed to meet 2M standards.
b) Working pressure on rams and BOPE will be 3,000 psi.
c) Function test and visual inspection of the BOP will be conducted daily and noted in the IADC Daily Drilling Report.
d) The Annular BOP will be pressure tested to a minimum of 50 percent of its rated working pressure.
e) Blind and Pipe Rams/BOP will be tested against a test plug to 100 percent of rated working pressure.
f) Pressure tests are required before drilling out from under all casing strings set and cemented in place.
g) BOP controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned.
h) BOP testing procedures and testing frequency will conform to Onshore Order No. 2.
i) BOP remote controls shall be located on the rig floor at a location readily accessible to the driller. Master controls shall be on the ground at the accumulator and shall have the capability to function all preventers.
j) The kill line shall be 2-inch minimum and contain two kill line valves, one of which shall be a check valve.
k) The choke line shall be a 2-inch minimum and contain two choke line valves (2-inch minimum).
l) The choke and manifold shall contain two adjustable chokes.
m) Hand wheels shall be installed on all ram preventers.
n) Safety valves and wrenches (with subs for drill string connections) shall be available on the rig floor at all times.
o) Inside BOP or float sub shall also be available on the rig floor at all times.

Proposed BOP and choke manifold arrangements are attached.

4. CASING & CEMENTING PROGRAM

The proposed casing and cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use. The casing setting depth shall be calculated to position the casing seat opposite a competent formation which will contain the maximum pressure to which it will be exposed during normal drilling operations. All indications of useable water shall be reported.

a) The proposed casing design is as follows:

Casing	Depth (MD)	Hole Size	Csg Size	Weight	Grade
Conductor	0'-60'	26"	16"	42.09#	
Surface	0'-500'	12 1/4"	9 5/8"	36#	J55, STC New
Intermediate	0'-5450'	8 3/4"	7"	26#	J55, LTC New
Production Liner	5350'-9915'	6 1/8"	4 1/2"	11.6#	N80, LTC New

Casing String				Casing Strength Properties			Minimum Design Factors		
Size	Weight (ppf)	Grade	Connection	Collapse (psi)	Burst (psi)	Tensile (1000lbs)	Collapse	Burst	Tension
9 5/8"	36	J55	STC	2020	3520	394	1.125	1.1	1.5
7"	26	J55	LTC	4320	4980	367	1.125	1.1	1.5
4.5"	11.6	N80	LTC	6350	7780	201	1.125	1.1	1.5

All casing strings will be API grades and connections

Casing design is subject to revision based on geologic conditions encountered.

Venado Canyon Unit 204H
SHL: SW/4 SW/4 Sec 12 T22N R6W, 1335' FSL, 163' FWL
BHL: SW/4 NE/4 Sec 11 T22N R6W, 2120' FNL, 2400' FEL
Sandoval, New Mexico
Lease Number: NMNM 117562 & NMNM 109390

All casing strings below the conductor shall be pressure tested to 0.22 psi per foot of casing string length or 1,500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

b) The proposed cementing program is as follows:

Casing	Depth (MD)	Cement Volume (sacks)	Cement Type & Yield	Designed	Centralizers
Conductor	0'-60'	100 sks	Type I Neat 16 ppg @ 4.5 ft3/sk	Surface	None
Surface	0'-500'	228 sks	Type III Cement 14.6 ppg with 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water @ 1.38 ft3/sk	Surface	1 per joint on bottom 3 joints
Intermediate	0'-5450'	100% open hole excess Stage 1 Lead: 507 sks Stage 1 Tail: 387 sks	Lead: PremLite + 3% CaCl + 0.25lb/sk CelloFlake + 5lb/sk LCM, 12.1ppg 2.13 ft3/sk Tail: Type III Cmt + 1% CaCl + 0.25lb/sk Cello Flake 14.5ppg @ 1.38 ft3/sk	Surface	1 every 3 joints through water bearing zones
Production Liner	5350'-9915'	50% OH excess Stage 1 Blend Total: 260sks	Blend: Premium Lite High Strength FM 13.5 ppg with 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL-52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield @ 2.63 cuft/sk	Liner Hanger	N/A

Actual volumes will be calculated and determined by conditions onsite. All cement slurries will meet or exceed minimum BLM and New Mexico Oil Conservation Division requirements. Slurries used will be the slurries listed above or equivalent slurries depending on service provider selected. Cement yields may change depending on slurries selected.

All waiting on cement times shall be a minimum of 8 hours or adequate to achieve minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

5. WELL PLAN & DIRECTIONAL DRILLING PROGRAM

The proposed horizontal well will have a kick off point of 4832'. Directional plans are attached.

Description	Proposed Depth (TVD/MD)	Formation
Horizontal Lateral TD	5361'/9915'	Gallup

Venado Canyon Unit 204H
SHL: SW/4 SW/4 Sec 12 T22N R6W, 1335' FSL, 163' FWL
BHL: SW/4 NE/4 Sec 11 T22N R6W, 2120' FNL, 2400' FEL
Sandoval, New Mexico
Lease Number: NMNM 117562 & NMNM 109390

6. DRILLING FLUIDS PROGRAM

a) Surface through Intermediate Casing Point:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
30"	0-60'/60'	Fresh Water	8.3-9.2	38-100	4-28
12 1/4"	0'-500'/500'	Fresh Water	8.3-10	60-70	NC
8 3/4"	500'/500'-5295'/5450	Fresh Water LSND	8.3-10	40-50	8-10

b) Intermediate Casing Point to TD:

Hole Size (in)	Depth (TVD/MD)	Mud Type	Density (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
6 1/8"	5295'/5450'-5361'/9915'	Fresh Water LSND	8.3-10	15-25	<15

c) There will be sufficient mud on location to control a blowout should one occur. Mud flow and volume will be monitored both visually and with electronic pit volume totalizers. Mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH. Sized LCM material (such as sawdust & wood fiber) will be kept on location in order to mitigate lost circulation. Electronic PVT totalizers will be used to monitor drilling fluid volumes.

d) A closed-loop system will be used to recover drilling fluid and dry cuttings in both phases of the well and on all hole intervals. Above-ground tanks will be utilized to hold cuttings and fluids for rig operations. A frac tank will be on location to store fresh water. Waste will be disposed of properly at an EPA-approved hazardous waste facility. Fresh water cuttings will be disposed of at Basin Disposal, Inc. and/or Industrial Ecosystems, Inc. The location will be lined in accordance with the Surface Use Plan of Operations.

7. TESTING, CORING, & LOGGING

a) Drill Stem Testing - None anticipated.
b) Coring - None anticipated.
c) Mudd Logging - Mud loggers will be on location from kick off point to TD.
d) Logging - See below.

Cased Hole:
CBL/CCL/GR/VDL will be run as needed for perforating control.

8. ABNORMAL PRESSURES & HYDROGEN SULFIDE

The anticipated bottom hole pressure is +/- 2523 psi based on a 9.0 ppg at 5391' TVD of the horizontal lateral target. No abnormal pressure or temperatures are anticipated. The expected bottom hole temperature is 172 deg F.

No hydrogen sulfide gas is anticipated, however, if H_2S is encountered, the guidelines in Onshore Order No. 6 will be followed.

9. ANTICIPATED START DATE AND DURATION OF OPERATIONS

Drilling is estimated to commence on March 1, 2017. It is anticipated that completion operations will begin within 30 days after the well has been drilled depending on fracture treatment schedules with various pumping service

It is anticipated that the drilling of this well will take approximately 20 days.

LOC: SW/4 SW/4 Sec 12 T22N R6W, 1335' FS County: Sandoval WELL: Venado Canyon Unit 204H	Encana Oil & Gas (USA) Inc. WELL SUMMARY			ENG: L Hubbard RIG: Unassigned GLE: 7040.4 RKBE: 7056.4	3-15-17

MWD LWD	OPEN HOLE LOGGING	FORM	DEPTH TVD	DEPTH MD	HOLE SIZE	CASING SPECS	MW MUD TYPE	DEVIATION INFORMATION
			60	60'	26	**16" 42.09# 100sx Type I Neat 16.0ppg cmt**	Fresh wtr 8.3-9.2	
Multi-Well pad - take survey every stand and run anti-collision report prior to spud	None	San Jose Fn. Nacimiento Fn. **9 5/8" Csg**	0 surface **500**	**500.00**	12 1/4	**9 5/8" 36ppf J55 LTC** TOC Surface with 100% OH Excess: 228 sks Type III Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.2% bwoc FL-52A + 58.9% Fresh Water.	Fresh wtr 8.3-10	Vertical <1°
Survey Every 60'-120', updating anticollision report after surveys. Stop operations and contact drilling engineer if separation factor approaches 1.5	No OH logs	Ojo Alamo Ss. Kirtland Shale Fruitland Coal Pictured Cliffs Ss. Lewis Shale Cliffhouse Ss. Menefee Fn. Point Lookout Ss. Mancos Shale	1,385 1,482 1,669 1,878 1,986 2,710 3,404 4,105 4,283		8 3/4	**7" 26ppf J55 LTC** TOC @ surface (100% OH excess - 70% Lead 30% Tail) Stage 1 Total: 895sks Stage 1 Lead: 507 sks Premium Lite FM + 3% CaCl2 + 0.25/sk Cello Flake + 5#/sk LCM-1 + 8% Bentonite + 0.4% FL-52A + 0.4% Sodium Metasilicate. Mixed at 12.1 ppg. Yield 2.13 cuft/sk. Stage 1 Tail: 387 sks Type III Cement + 1% CaCl2 + 0.25#/sk Cello Flake + 0.2% FL-52A. Mixed at 14.6 ppg. Yield 1.38 cuft/sk.	Fresh Wtr 8.3-10	Vertical <1°
	Mud logger onsite	**KOP**	**4,832**	**4,900**				
Surveys every 30' through the curve		Mancos Silt	4,860					
		Gallup Fn. **7" Csg**	5,145 **5,295**	**5,450'**				
Surveys every stand to TD unless directed otherwise by Geologist MWD Gamma Directional	No OH Logs	Horizontal Target **TD** Base Gallup	5,391 **5,361** 5,474	**9,915**	6 1/8	100' overlap at liner top 4465' Drilled Lateral **4 1/2" 11.6ppf N80 LTC** TOC @ hanger (50% OH excess) Stage 1 Total: 260sks Stage 1 Blend: 260 sks Premium Lite High Strength FM + 0.7% bwoc R-3 + 3% bwow Potassium Chloride + 0.25lbs/sack Cello Flake + 0.5% bwoc CD-32 + 1.15% bwoc FL-52A + 60 lbs/sack Calcium Carbonate + 124.4% Fresh Water. Yield 2.63 cuft/sk.	**WBM** 8.3-10	Horz Inc/TVD 90.4deg/5391.4ft TD = 9915.2 MD

NOTES:

1) Drill with 26" bit to 60', set 16" 42.09ppf conductor pipe
2) Drill surface to 500', R&C 9 5/8" casing
3) N/U BOP and surface equipment
4) Drill to KOP of 4900', 8 3/4 inch holesize
5) Start curve at 10deg/100' build rate
6) Drill to csg point of 5450' MD
7) R&C 7" csg, circ cmt to surface
8) Land at ~55 deg, drill lateral to 9915' run 4 1/2 inch cemented liner

EnCana Oil & Gas (USA) Inc

Sandoval County, NM
S12-T22N-R6W
VCU L12-2206 02H (204H)
OH
PLAN #1

Anticollision Report

30 August, 2016

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Reference	PLAN #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,500.0ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 8/30/2016

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	9,914.8	PLAN #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
S12-T22N-R6W						
VCU A11-2206 01H (207H) - OH - PLAN #1						Out of range
VCU L12-2206 01H (203H) - OH - PLAN #1	705.1	703.4	28.9	24.2	6.220	CC, ES
VCU L12-2206 01H (203H) - OH - PLAN #1	5,639.1	5,568.0	102.3	60.1	2.427	SF
VCU L12-2206 03H (205H) - OH - PLAN #1	500.0	500.0	30.0	26.8	9.456	CC, ES
VCU L12-2206 03H (205H) - OH - PLAN #1	700.0	699.8	36.7	32.1	8.003	SF
VCU L12-2206 04H (206H) - OH - PLAN #1	500.0	500.0	60.4	57.2	19.051	CC, ES
VCU L12-2206 04H (206H) - OH - PLAN #1	9,300.0	9,171.2	1,350.5	1,145.2	6.577	SF

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S12-T22N-R6W - VCU L12-2206 01H (203H) - OH - PLAN #1 — Offset Site Error: 0.0 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-119.88	-14.9	-26.0	30.0				
100.0	100.0	100.0	100.0	0.2	0.2	-119.88	-14.9	-26.0	30.0	29.7	0.30	99.516	
200.0	200.0	200.0	200.0	0.5	0.5	-119.88	-14.9	-26.0	30.0	28.9	1.02	29.434	
300.0	300.0	300.0	300.0	0.9	0.9	-119.88	-14.9	-26.0	30.0	28.2	1.74	17.271	
400.0	400.0	400.0	400.0	1.2	1.2	-119.88	-14.9	-26.0	30.0	27.5	2.45	12.221	
500.0	500.0	500.0	500.0	1.6	1.6	-119.88	-14.9	-26.0	30.0	26.8	3.17	9.456	
600.0	600.0	599.3	599.3	1.9	1.9	-21.77	-16.6	-26.3	29.5	25.6	3.87	7.621	
700.0	699.8	698.3	698.2	2.3	2.3	-32.86	-21.6	-27.4	28.9	24.3	4.60	6.274	
705.1	704.9	703.4	703.2	2.3	2.3	-33.63	-22.0	-27.4	28.9	24.2	4.64	6.220	CC, ES
800.0	799.5	797.0	796.4	2.6	2.6	-50.92	-30.0	-29.1	30.3	24.9	5.40	5.608	
900.0	898.7	895.0	893.7	3.0	2.9	-70.83	-41.5	-31.5	36.5	30.3	6.21	5.880	
1,000.0	997.5	992.1	989.7	3.4	3.3	-86.47	-56.2	-34.5	48.7	41.8	6.98	6.983	
1,073.1	1,069.3	1,063.5	1,059.9	3.7	3.6	-94.79	-68.5	-37.1	60.8	53.3	7.48	8.124	
1,100.0	1,095.6	1,089.8	1,085.9	3.8	3.7	-97.43	-73.1	-38.0	65.5	57.8	7.66	8.546	
1,200.0	1,193.7	1,187.7	1,182.2	4.2	4.1	-104.58	-90.0	-41.5	84.0	75.6	8.38	10.021	
1,300.0	1,291.7	1,285.5	1,278.5	4.6	4.5	-109.12	-107.0	-45.0	103.3	94.1	9.13	11.309	
1,400.0	1,389.7	1,383.4	1,374.8	5.1	4.9	-112.22	-123.9	-48.5	123.0	113.1	9.90	12.417	
1,500.0	1,487.7	1,481.2	1,471.1	5.5	5.3	-114.47	-140.9	-52.0	143.0	132.3	10.69	13.368	
1,600.0	1,585.7	1,579.1	1,567.4	6.0	5.7	-116.16	-157.8	-55.5	163.1	151.6	11.49	14.189	
1,700.0	1,683.7	1,676.9	1,663.7	6.4	6.1	-117.48	-174.8	-59.0	183.3	171.0	12.30	14.902	
1,800.0	1,781.7	1,774.8	1,760.0	6.9	6.5	-118.54	-191.7	-62.5	203.6	190.5	13.12	15.525	
1,900.0	1,879.7	1,872.6	1,856.3	7.3	7.0	-119.41	-208.7	-66.0	224.0	210.1	13.94	16.073	
2,000.0	1,977.7	1,970.5	1,952.6	7.8	7.4	-120.13	-225.6	-69.5	244.4	229.7	14.76	16.559	
2,100.0	2,075.7	2,068.3	2,048.9	8.2	7.8	-120.74	-242.6	-73.1	264.9	249.3	15.59	16.993	
2,200.0	2,173.7	2,166.2	2,145.3	8.7	8.2	-121.26	-259.5	-76.6	285.3	268.9	16.42	17.381	
2,300.0	2,271.7	2,264.0	2,241.6	9.1	8.6	-121.72	-276.5	-80.1	305.8	288.6	17.25	17.731	
2,400.0	2,369.7	2,361.9	2,337.9	9.6	9.1	-122.11	-293.4	-83.6	326.3	308.2	18.08	18.047	
2,500.0	2,467.7	2,459.7	2,434.2	10.0	9.5	-122.46	-310.4	-87.1	346.8	327.9	18.92	18.335	
2,600.0	2,565.7	2,557.6	2,530.5	10.5	9.9	-122.77	-327.3	-90.6	367.3	347.6	19.75	18.598	
2,700.0	2,663.7	2,655.4	2,626.8	11.0	10.3	-123.05	-344.3	-94.1	387.9	367.3	20.59	18.838	
2,800.0	2,761.7	2,753.3	2,723.1	11.4	10.8	-123.30	-361.2	-97.6	408.4	387.0	21.43	19.060	
2,900.0	2,859.7	2,851.1	2,819.4	11.9	11.2	-123.53	-378.2	-101.1	429.0	406.7	22.27	19.264	
3,000.0	2,957.8	2,949.0	2,915.7	12.3	11.6	-123.73	-395.1	-104.6	449.5	426.4	23.11	19.453	
3,100.0	3,055.8	3,046.9	3,012.0	12.8	12.1	-123.92	-412.1	-108.1	470.1	446.1	23.95	19.628	
3,200.0	3,153.8	3,144.7	3,108.4	13.3	12.5	-124.09	-429.0	-111.6	490.6	465.9	24.79	19.791	
3,300.0	3,251.8	3,242.6	3,204.7	13.7	12.9	-124.25	-446.0	-115.1	511.2	485.6	25.63	19.943	
3,400.0	3,349.8	3,340.4	3,301.0	14.2	13.3	-124.39	-462.9	-118.6	531.8	505.3	26.48	20.085	
3,500.0	3,447.8	3,438.3	3,397.3	14.7	13.8	-124.53	-479.9	-122.1	552.4	525.0	27.32	20.218	
3,600.0	3,545.8	3,536.1	3,493.6	15.1	14.2	-124.65	-496.8	-125.6	572.9	544.8	28.16	20.343	
3,700.0	3,643.8	3,634.0	3,589.9	15.6	14.6	-124.77	-513.8	-129.1	593.5	564.5	29.01	20.460	
3,800.0	3,741.8	3,731.8	3,686.2	16.0	15.1	-124.88	-530.7	-132.6	614.1	584.2	29.85	20.571	
3,900.0	3,839.8	3,829.7	3,782.5	16.5	15.5	-124.98	-547.7	-136.1	634.7	604.0	30.70	20.675	
4,000.0	3,937.8	3,927.5	3,878.8	17.0	15.9	-125.08	-564.6	-139.6	655.3	623.7	31.54	20.774	
4,094.8	4,030.7	4,020.3	3,970.1	17.4	16.3	-125.16	-580.7	-143.0	674.8	642.4	32.34	20.863	
4,100.0	4,035.8	4,025.4	3,975.1	17.4	16.3	-125.18	-581.6	-143.1	675.9	643.5	32.39	20.867	
4,200.0	4,134.2	4,123.5	4,071.7	17.9	16.8	-125.46	-598.6	-146.6	695.3	662.1	33.22	20.930	
4,300.0	4,233.1	4,221.8	4,168.5	18.3	17.2	-125.47	-615.6	-150.2	712.9	678.8	34.04	20.943	
4,400.0	4,332.5	4,320.4	4,265.5	18.7	17.6	-125.24	-632.7	-153.7	728.4	693.6	34.83	20.911	
4,500.0	4,432.2	4,419.1	4,362.7	19.0	18.1	-124.77	-649.8	-157.2	742.1	706.4	35.61	20.839	
4,600.0	4,532.1	4,517.7	4,459.7	19.4	18.5	-124.08	-666.9	-160.8	753.9	717.5	36.36	20.732	
4,667.9	4,600.0	4,584.6	4,525.5	19.6	18.8	134.85	-678.5	-163.2	760.9	724.0	36.85	20.646	
4,700.0	4,632.1	4,616.2	4,556.6	19.7	18.9	135.20	-683.9	-164.3	764.0	727.0	37.08	20.604	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S12-T22N-R6W - VCU L12-2206 01H (203H) - OH - PLAN #1 — Offset Site Error: 0.0 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
4,800.0	4,732.1	6,000.2	5,389.6	20.0	26.2	-135.06	-245.4	-800.8	672.8	661.6	11.19	60.119	
4,884.8	4,816.9	5,999.9	5,389.6	20.2	26.2	-135.18	-245.6	-800.5	590.2	578.5	11.67	50.565	
4,900.0	4,832.1	5,999.6	5,389.6	20.2	26.2	91.85	-245.7	-800.4	575.5	563.7	11.79	48.808	
4,950.0	4,882.0	5,996.0	5,389.6	20.4	26.1	108.46	-248.3	-797.7	527.2	515.0	12.23	43.104	
5,000.0	4,931.3	5,988.0	5,389.6	20.5	26.0	119.92	-253.8	-792.0	479.7	466.9	12.78	37.539	
5,050.0	4,979.8	5,975.8	5,389.7	20.6	25.8	127.20	-262.3	-783.2	433.3	419.8	13.47	32.169	
5,100.0	5,027.1	5,959.4	5,389.7	20.7	25.5	131.59	-273.7	-771.4	388.5	374.1	14.35	27.067	
5,150.0	5,072.7	5,938.9	5,389.8	20.8	25.2	133.94	-287.9	-756.7	345.6	330.1	15.48	22.328	
5,200.0	5,116.4	5,914.6	5,389.9	20.9	24.8	134.77	-304.8	-739.2	305.2	288.2	16.91	18.046	
5,250.0	5,157.9	5,886.6	5,390.0	21.0	24.4	134.36	-324.3	-719.1	267.6	248.8	18.71	14.298	
5,300.0	5,196.7	5,855.1	5,390.1	21.1	23.9	132.82	-346.2	-696.4	233.2	212.3	20.94	11.136	
5,350.0	5,232.7	5,820.4	5,390.2	21.1	23.4	130.18	-370.3	-671.5	202.7	179.0	23.62	8.580	
5,400.0	5,265.4	5,780.4	5,390.3	21.2	22.9	126.07	-398.1	-642.7	176.1	149.4	26.74	6.587	
5,450.0	5,294.8	5,730.9	5,387.6	21.3	22.2	118.92	-432.1	-606.9	152.3	121.7	30.62	4.974	
5,500.0	5,320.5	5,684.6	5,381.2	21.4	21.7	110.19	-463.3	-573.2	131.4	96.4	34.99	3.755	
5,550.0	5,342.4	5,640.8	5,371.9	21.5	21.3	99.63	-491.9	-541.5	114.9	75.8	39.16	2.934	
5,600.0	5,360.3	5,599.3	5,360.0	21.6	21.2	87.37	-518.2	-511.6	104.8	62.9	41.87	2.502	
5,639.1	5,371.4	5,568.0	5,349.3	21.7	21.2	77.06	-537.4	-489.4	102.3	60.1	42.14	2.427 SF	
5,650.0	5,374.1	5,559.5	5,346.1	21.8	21.2	74.16	-542.5	-483.4	102.4	60.6	41.90	2.445	
5,700.0	5,383.6	5,521.2	5,330.2	22.1	21.2	61.26	-565.0	-456.7	108.0	68.5	39.50	2.733	
5,750.0	5,388.8	5,484.2	5,312.8	22.5	21.2	49.80	-585.7	-431.5	119.7	83.3	36.38	3.290	
5,788.8	5,389.8	5,456.2	5,298.2	22.9	21.2	42.24	-600.6	-412.8	131.6	97.3	34.38	3.829	
5,800.0	5,389.8	5,450.0	5,294.8	23.1	21.2	40.90	-603.8	-408.7	135.5	101.4	34.14	3.969	
5,900.0	5,389.1	5,383.8	5,255.4	24.3	21.2	28.20	-636.2	-366.6	180.9	149.1	31.77	5.694	
6,000.0	5,388.4	5,329.8	5,219.0	25.8	21.1	20.32	-659.6	-334.4	241.1	209.0	32.14	7.503	
6,100.0	5,387.7	5,284.7	5,185.8	27.4	21.1	15.26	-676.9	-309.2	311.0	277.7	33.29	9.341	
6,200.0	5,387.0	5,250.0	5,158.8	29.2	21.0	12.16	-688.8	-291.0	387.4	352.7	34.68	11.169	
6,300.0	5,386.3	5,214.8	5,130.1	31.1	21.0	9.55	-699.5	-273.6	468.3	432.8	35.52	13.184	
6,400.0	5,385.6	5,187.6	5,107.1	33.1	20.9	7.86	-706.8	-261.0	552.6	516.3	36.37	15.195	
6,500.0	5,384.9	5,164.3	5,086.9	35.1	20.9	6.59	-712.4	-250.8	639.5	602.5	37.06	17.257	
6,532.6	5,384.7	5,150.0	5,074.4	35.8	20.9	5.88	-715.5	-244.8	668.4	631.4	37.04	18.045	
6,600.0	5,384.2	5,150.0	5,074.4	37.2	20.9	1.89	-715.5	-244.8	728.5	690.8	37.78	19.284	
6,700.0	5,383.5	5,126.1	5,053.0	39.4	20.8	-5.10	-720.2	-235.2	819.0	780.9	38.12	21.487	
6,715.2	5,383.4	5,123.5	5,050.6	39.8	20.8	-6.13	-720.7	-234.3	832.9	794.7	38.19	21.812	
6,800.0	5,382.8	5,100.0	5,029.1	41.7	20.8	-6.27	-724.6	-225.5	910.8	872.5	38.35	23.753	
6,900.0	5,382.1	5,100.0	5,029.1	44.0	20.8	-6.27	-724.6	-225.5	1,003.4	964.5	38.94	25.766	
7,000.0	5,381.4	5,100.0	5,029.1	46.4	20.8	-6.27	-724.6	-225.5	1,097.3	1,057.9	39.40	27.851	
7,100.0	5,380.7	5,072.5	5,003.6	48.8	20.7	-6.41	-728.3	-216.1	1,191.2	1,151.8	39.42	30.220	
7,200.0	5,380.0	5,050.0	4,982.3	51.2	20.6	-6.52	-730.6	-209.0	1,286.2	1,246.7	39.49	32.573	
7,300.0	5,379.3	5,050.0	4,982.3	53.6	20.6	-6.52	-730.6	-209.0	1,381.4	1,341.6	39.78	34.730	
7,400.0	5,378.6	5,050.0	4,982.3	56.0	20.6	-6.52	-730.6	-209.0	1,477.2	1,437.2	40.01	36.918	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S12-T22N-R6W - VCU L12-2206 03H (205H) - OH - PLAN #1 — Offset Site Error: 0.0 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	60.12	14.9	26.0	30.0				
100.0	100.0	100.0	100.0	0.2	0.2	60.12	14.9	26.0	30.0	29.7	0.30	99.516	
200.0	200.0	200.0	200.0	0.5	0.5	60.12	14.9	26.0	30.0	28.9	1.02	29.434	
300.0	300.0	300.0	300.0	0.9	0.9	60.12	14.9	26.0	30.0	28.2	1.74	17.271	
400.0	400.0	400.0	400.0	1.2	1.2	60.12	14.9	26.0	30.0	27.5	2.45	12.221	
500.0	500.0	500.0	500.0	1.6	1.6	60.12	14.9	26.0	30.0	26.8	3.17	9.456	CC, ES
600.0	600.0	600.0	600.0	1.9	1.9	162.76	14.9	26.0	31.6	27.8	3.88	8.159	
700.0	699.8	699.8	699.8	2.3	2.3	165.16	14.9	26.0	36.7	32.1	4.58	8.003	SF
800.0	799.5	797.9	797.9	2.6	2.6	168.39	15.2	27.6	46.8	41.5	5.30	8.830	
900.0	898.7	894.6	894.4	3.0	3.0	171.50	16.1	32.5	63.8	57.7	6.04	10.559	
1,000.0	997.5	989.2	988.7	3.4	3.3	173.83	17.6	40.3	87.5	80.7	6.78	12.898	
1,073.1	1,069.3	1,056.7	1,055.8	3.7	3.6	175.07	18.9	47.8	109.0	101.7	7.32	14.881	
1,100.0	1,095.6	1,081.2	1,080.1	3.8	3.7	175.45	19.5	50.9	117.6	110.1	7.52	15.641	
1,200.0	1,193.7	1,171.0	1,168.9	4.2	4.0	176.55	21.9	64.0	151.7	143.5	8.23	18.443	
1,300.0	1,291.7	1,264.0	1,260.6	4.6	4.3	177.32	24.7	79.2	187.5	178.6	8.87	21.134	
1,400.0	1,389.7	1,357.3	1,352.6	5.1	4.7	177.84	27.5	94.4	223.3	213.8	9.53	23.443	
1,500.0	1,487.7	1,450.7	1,444.7	5.5	5.1	178.22	30.3	109.6	259.2	249.0	10.19	25.439	
1,600.0	1,585.7	1,544.0	1,536.7	6.0	5.5	178.51	33.1	124.9	295.0	284.2	10.86	27.176	
1,700.0	1,683.7	1,637.4	1,628.8	6.4	5.8	178.73	35.9	140.1	330.9	319.3	11.53	28.698	
1,800.0	1,781.7	1,730.7	1,720.8	6.9	6.2	178.91	38.7	155.4	366.7	354.5	12.21	30.041	
1,900.0	1,879.7	1,824.1	1,812.9	7.3	6.6	179.06	41.5	170.6	402.6	389.7	12.89	31.234	
2,000.0	1,977.7	1,917.4	1,904.9	7.8	7.0	179.18	44.3	185.9	438.4	424.9	13.57	32.298	
2,100.0	2,075.7	2,010.8	1,997.0	8.2	7.4	179.29	47.1	201.1	474.3	460.0	14.26	33.255	
2,200.0	2,173.7	2,104.1	2,089.0	8.7	7.8	179.38	49.9	216.4	510.2	495.2	14.95	34.117	
2,300.0	2,271.7	2,197.5	2,181.1	9.1	8.2	179.46	52.7	231.6	546.0	530.4	15.65	34.899	
2,400.0	2,369.7	2,290.8	2,273.1	9.6	8.6	179.53	55.5	246.9	581.9	565.5	16.34	35.611	
2,500.0	2,467.7	2,384.2	2,365.2	10.0	8.9	179.59	58.3	262.1	617.7	600.7	17.04	36.261	
2,600.0	2,565.7	2,477.5	2,457.2	10.5	9.3	179.64	61.1	277.3	653.6	635.9	17.73	36.857	
2,700.0	2,663.7	2,570.8	2,549.3	11.0	9.7	179.69	63.9	292.6	689.5	671.0	18.43	37.406	
2,800.0	2,761.7	2,664.2	2,641.3	11.4	10.1	179.74	66.7	307.8	725.3	706.2	19.13	37.912	
2,900.0	2,859.7	2,757.5	2,733.4	11.9	10.5	179.78	69.5	323.1	761.2	741.4	19.83	38.381	
3,000.0	2,957.8	2,850.9	2,825.4	12.3	10.9	179.81	72.3	338.3	797.1	776.5	20.53	38.816	
3,100.0	3,055.8	2,944.2	2,917.5	12.8	11.3	179.84	75.1	353.6	832.9	811.7	21.24	39.221	
3,200.0	3,153.8	3,037.6	3,009.5	13.3	11.7	179.88	77.9	368.8	868.8	846.8	21.94	39.599	
3,300.0	3,251.8	3,130.9	3,101.6	13.7	12.1	179.90	80.7	384.1	904.7	882.0	22.64	39.952	
3,400.0	3,349.8	3,224.3	3,193.6	14.2	12.5	179.93	83.5	399.3	940.5	917.2	23.35	40.283	
3,500.0	3,447.8	3,317.6	3,285.7	14.7	12.9	179.95	86.3	414.5	976.4	952.3	24.05	40.593	
3,600.0	3,545.8	3,411.0	3,377.8	15.1	13.3	179.97	89.1	429.8	1,012.2	987.5	24.76	40.885	
3,700.0	3,643.8	3,504.3	3,469.8	15.6	13.7	180.00	91.9	445.0	1,048.1	1,022.7	25.46	41.160	
3,800.0	3,741.8	3,597.7	3,561.9	16.0	14.1	-179.99	94.7	460.3	1,084.0	1,057.8	26.17	41.420	
3,900.0	3,839.8	3,691.0	3,653.9	16.5	14.5	-179.97	97.5	475.5	1,119.8	1,093.0	26.88	41.666	
4,000.0	3,937.8	3,784.3	3,746.0	17.0	14.9	-179.95	100.3	490.8	1,155.7	1,128.1	27.58	41.898	
4,094.8	4,030.7	3,872.8	3,833.2	17.4	15.3	-179.94	102.9	505.2	1,189.7	1,161.5	28.25	42.107	
4,100.0	4,035.8	3,877.7	3,838.0	17.4	15.3	-179.93	103.1	506.0	1,191.6	1,163.3	28.29	42.118	
4,200.0	4,134.2	3,971.7	3,930.7	17.9	15.7	-179.92	105.9	521.4	1,225.6	1,196.6	29.00	42.266	
4,300.0	4,233.1	4,067.0	4,024.7	18.3	16.1	-179.91	108.8	536.9	1,256.4	1,226.7	29.71	42.294	
4,400.0	4,332.5	4,241.0	4,197.1	18.7	16.8	-179.89	113.0	560.2	1,280.9	1,249.9	30.97	41.353	
4,500.0	4,432.2	4,420.7	4,376.2	19.0	17.5	-179.88	115.4	573.4	1,295.9	1,263.7	32.15	40.310	
4,600.0	4,532.1	4,576.6	4,532.1	19.4	18.0	-179.88	115.9	576.0	1,301.5	1,268.4	33.09	39.334	
4,667.9	4,600.0	4,644.5	4,600.0	19.6	18.2	78.47	115.9	576.0	1,302.3	1,268.7	33.54	38.826	
4,700.0	4,632.1	4,676.6	4,632.1	19.7	18.3	78.47	115.9	576.0	1,302.3	1,268.5	33.75	38.584	
4,800.0	4,732.1	4,776.6	4,732.1	20.0	18.6	78.47	115.9	576.0	1,302.3	1,267.9	34.41	37.845	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S12-T22N-R6W - VCU L12-2206 03H (205H) - OH - PLAN #1 — Offset Site Error: 0.0 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
4,884.8	4,816.9	5,847.7	5,418.9	20.2	23.5	49.54	596.7	169.0	1,291.1	1,253.9	37.16	34.739	
4,900.0	4,832.1	5,847.4	5,418.9	20.2	23.5	-90.13	596.5	169.2	1,284.0	1,246.6	37.39	34.341	
4,950.0	4,882.0	5,843.6	5,418.9	20.4	23.5	-92.40	593.5	171.7	1,262.0	1,223.9	38.08	33.141	
5,000.0	4,931.3	5,835.4	5,419.0	20.5	23.4	-94.21	587.3	177.0	1,241.7	1,203.0	38.68	32.104	
5,050.0	4,979.8	5,823.0	5,419.0	20.6	23.2	-95.58	577.8	185.1	1,223.3	1,184.2	39.18	31.226	
5,100.0	5,027.1	5,806.3	5,419.2	20.7	23.0	-96.53	565.1	195.8	1,207.0	1,167.4	39.57	30.500	
5,150.0	5,072.7	5,771.8	5,418.9	20.8	22.6	-96.46	538.7	218.1	1,192.6	1,152.9	39.69	30.047	
5,200.0	5,116.4	5,723.7	5,415.3	20.9	22.0	-95.60	502.1	249.1	1,179.9	1,140.2	39.63	29.770	
5,250.0	5,157.9	5,682.2	5,409.0	21.0	21.6	-94.87	470.9	275.5	1,168.8	1,129.1	39.65	29.474	
5,300.0	5,196.7	5,644.9	5,400.8	21.1	21.3	-94.16	443.1	299.1	1,159.3	1,119.6	39.71	29.195	
5,350.0	5,232.7	5,610.2	5,391.0	21.1	21.0	-93.40	417.7	320.6	1,151.6	1,111.8	39.79	28.942	
5,400.0	5,265.4	5,577.5	5,380.0	21.2	20.8	-92.58	394.2	340.5	1,145.5	1,105.6	39.89	28.719	
5,450.0	5,294.8	5,546.1	5,367.8	21.3	20.6	-91.67	372.1	359.2	1,141.1	1,101.1	40.00	28.525	
5,500.0	5,320.5	5,515.7	5,354.5	21.4	20.5	-90.67	351.2	376.8	1,138.3	1,098.1	40.15	28.349	
5,550.0	5,342.4	5,486.1	5,340.1	21.5	20.4	-89.58	331.5	393.5	1,137.0	1,096.7	40.34	28.187	
5,571.2	5,350.5	5,473.7	5,333.7	21.5	20.4	-89.09	323.4	400.4	1,136.9	1,096.4	40.47	28.093	
5,600.0	5,360.3	5,457.1	5,324.8	21.6	20.3	-88.41	312.7	409.4	1,137.1	1,096.5	40.57	28.027	
5,650.0	5,374.1	5,428.6	5,308.5	21.8	20.2	-87.15	294.8	424.6	1,138.5	1,097.6	40.86	27.863	
5,700.0	5,383.6	5,400.0	5,291.1	22.1	20.2	-85.82	277.5	439.2	1,141.0	1,099.9	41.19	27.702	
5,750.0	5,388.8	5,372.6	5,273.3	22.5	20.1	-84.46	261.6	452.6	1,144.6	1,103.1	41.59	27.524	
5,788.8	5,389.8	5,350.0	5,257.9	22.9	20.1	-83.33	249.0	463.3	1,148.1	1,106.2	41.90	27.398	
5,800.0	5,389.8	5,350.0	5,257.9	23.1	20.1	-83.33	249.0	463.3	1,149.2	1,107.1	42.05	27.326	
5,900.0	5,389.1	5,300.0	5,221.6	24.3	20.0	-81.54	222.8	485.5	1,162.0	1,118.9	43.05	26.988	
6,000.0	5,388.4	5,250.0	5,182.4	25.8	19.9	-79.62	199.1	505.6	1,180.6	1,136.5	44.11	26.766	
6,100.0	5,387.7	5,220.3	5,157.9	27.4	19.8	-78.43	186.3	516.4	1,205.4	1,160.0	45.33	26.591	
6,200.0	5,387.0	5,200.0	5,140.7	29.2	19.8	-77.60	178.1	523.4	1,236.4	1,189.8	46.58	26.545	
6,300.0	5,386.3	5,166.3	5,111.3	31.1	19.7	-76.19	165.5	534.0	1,273.3	1,225.7	47.63	26.736	
6,400.0	5,385.6	5,150.0	5,096.7	33.1	19.7	-75.50	159.9	538.8	1,316.1	1,267.4	48.71	27.019	
6,500.0	5,384.9	5,126.4	5,075.3	35.1	19.6	-74.50	152.4	545.1	1,364.2	1,314.6	49.61	27.497	
6,532.6	5,384.7	5,120.9	5,070.2	35.8	19.6	-74.26	150.7	546.5	1,381.0	1,331.1	49.90	27.676	
6,600.0	5,384.2	5,100.0	5,050.9	37.2	19.5	-73.72	144.7	551.6	1,416.4	1,366.0	50.39	28.110	
6,700.0	5,383.5	5,100.0	5,050.9	39.4	19.5	-74.25	144.7	551.6	1,469.1	1,417.8	51.32	28.627	
6,715.2	5,383.4	5,100.0	5,050.9	39.8	19.5	-74.33	144.7	551.6	1,477.1	1,425.7	51.45	28.710	

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S12-T22N-R6W - VCU L12-2206 04H (206H) - OH - PLAN #1 — Offset Site Error: 0.0 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	59.96	30.2	52.3	60.4				
100.0	100.0	100.0	100.0	0.2	0.2	59.96	30.2	52.3	60.4	60.1	0.30	200.485	
200.0	200.0	200.0	200.0	0.5	0.5	59.96	30.2	52.3	60.4	59.4	1.02	59.298	
300.0	300.0	300.0	300.0	0.9	0.9	59.96	30.2	52.3	60.4	58.6	1.74	34.795	
400.0	400.0	400.0	400.0	1.2	1.2	59.96	30.2	52.3	60.4	57.9	2.45	24.621	
500.0	500.0	500.0	500.0	1.6	1.6	59.96	30.2	52.3	60.4	57.2	3.17	19.051	CC, ES
600.0	600.0	598.6	598.6	1.9	1.9	160.89	31.9	52.5	63.1	59.2	3.88	16.243	
700.0	699.8	696.8	696.6	2.3	2.3	159.03	36.9	53.3	71.3	66.7	4.62	15.451	
800.0	799.5	794.0	793.5	2.6	2.6	156.71	45.1	54.5	85.1	79.8	5.37	15.866	
900.0	898.7	889.8	888.6	3.0	3.0	154.48	56.4	56.2	104.5	98.4	6.12	17.066	
1,000.0	997.5	985.6	983.4	3.4	3.4	152.68	70.3	58.2	128.9	122.1	6.85	18.830	
1,073.1	1,069.3	1,055.9	1,052.9	3.7	3.6	152.01	80.8	59.8	148.9	141.6	7.36	20.231	
1,100.0	1,095.6	1,081.7	1,078.4	3.8	3.7	151.93	84.6	60.3	156.6	149.0	7.55	20.731	
1,200.0	1,193.7	1,177.6	1,173.2	4.2	4.1	151.68	98.8	62.4	185.0	176.7	8.25	22.415	
1,300.0	1,291.7	1,273.4	1,267.9	4.6	4.5	151.50	113.0	64.6	213.4	204.4	8.96	23.810	
1,400.0	1,389.7	1,369.3	1,362.7	5.1	4.8	151.36	127.2	66.7	241.8	232.2	9.68	24.980	
1,500.0	1,487.7	1,465.2	1,457.5	5.5	5.2	151.25	141.5	68.8	270.3	259.9	10.41	25.973	
1,600.0	1,585.7	1,561.1	1,552.3	6.0	5.6	151.16	155.7	70.9	298.7	287.6	11.13	26.825	
1,700.0	1,683.7	1,656.9	1,647.1	6.4	6.0	151.09	169.9	73.0	327.1	315.2	11.87	27.563	
1,800.0	1,781.7	1,752.8	1,741.9	6.9	6.4	151.02	184.1	75.1	355.5	342.9	12.60	28.207	
1,900.0	1,879.7	1,848.7	1,836.7	7.3	6.8	150.97	198.3	77.2	384.0	370.6	13.34	28.774	
2,000.0	1,977.7	1,944.6	1,931.5	7.8	7.2	150.93	212.5	79.3	412.4	398.3	14.09	29.276	
2,100.0	2,075.7	2,040.4	2,026.3	8.2	7.5	150.89	226.8	81.4	440.8	426.0	14.83	29.724	
2,200.0	2,173.7	2,136.3	2,121.1	8.7	7.9	150.85	241.0	83.6	469.2	453.7	15.58	30.126	
2,300.0	2,271.7	2,232.2	2,215.8	9.1	8.3	150.82	255.2	85.7	497.7	481.4	16.32	30.489	
2,400.0	2,369.7	2,328.1	2,310.6	9.6	8.7	150.79	269.4	87.8	526.1	509.0	17.07	30.817	
2,500.0	2,467.7	2,423.9	2,405.4	10.0	9.1	150.77	283.6	89.9	554.5	536.7	17.82	31.116	
2,600.0	2,565.7	2,519.8	2,500.2	10.5	9.5	150.75	297.9	92.0	583.0	564.4	18.57	31.389	
2,700.0	2,663.7	2,615.7	2,595.0	11.0	9.9	150.73	312.1	94.1	611.4	592.1	19.32	31.640	
2,800.0	2,761.7	2,711.5	2,689.8	11.4	10.3	150.71	326.3	96.2	639.8	619.7	20.08	31.870	
2,900.0	2,859.7	2,807.4	2,784.6	11.9	10.7	150.69	340.5	98.3	668.2	647.4	20.83	32.083	
3,000.0	2,957.8	2,903.3	2,879.4	12.3	11.0	150.67	354.7	100.4	696.7	675.1	21.58	32.280	
3,100.0	3,055.8	2,999.2	2,974.2	12.8	11.4	150.66	369.0	102.5	725.1	702.8	22.34	32.463	
3,200.0	3,153.8	3,095.0	3,069.0	13.3	11.8	150.65	383.2	104.7	753.5	730.4	23.09	32.633	
3,300.0	3,251.8	3,190.9	3,163.7	13.7	12.2	150.64	397.4	106.8	782.0	758.1	23.85	32.792	
3,400.0	3,349.8	3,286.8	3,258.5	14.2	12.6	150.62	411.6	108.9	810.4	785.8	24.60	32.940	
3,500.0	3,447.8	3,382.7	3,353.3	14.7	13.0	150.61	425.8	111.0	838.8	813.5	25.36	33.079	
3,600.0	3,545.8	3,478.5	3,448.1	15.1	13.4	150.60	440.0	113.1	867.2	841.1	26.11	33.210	
3,700.0	3,643.8	3,574.4	3,542.9	15.6	13.8	150.59	454.3	115.2	895.7	868.8	26.87	33.333	
3,800.0	3,741.8	3,670.3	3,637.7	16.0	14.2	150.59	468.5	117.3	924.1	896.5	27.63	33.449	
3,900.0	3,839.8	3,766.2	3,732.5	16.5	14.6	150.58	482.7	119.4	952.5	924.1	28.38	33.558	
4,000.0	3,937.8	3,862.0	3,827.3	17.0	15.0	150.57	496.9	121.5	981.0	951.8	29.14	33.662	
4,094.8	4,030.7	3,952.9	3,917.1	17.4	15.3	150.56	510.4	123.5	1,007.9	978.0	29.86	33.755	
4,100.0	4,035.8	3,957.9	3,922.1	17.4	15.3	150.58	511.1	123.7	1,009.4	979.5	29.90	33.760	
4,200.0	4,134.2	4,054.2	4,017.3	17.9	15.7	150.79	525.4	125.8	1,036.2	1,005.5	30.65	33.805	
4,300.0	4,233.1	4,151.3	4,113.3	18.3	16.1	150.88	539.8	127.9	1,060.1	1,028.7	31.40	33.761	
4,400.0	4,332.5	4,249.0	4,209.9	18.7	16.5	150.84	554.3	130.1	1,081.0	1,048.8	32.14	33.633	
4,500.0	4,432.2	4,347.2	4,306.9	19.0	16.9	150.70	568.9	132.2	1,098.9	1,066.1	32.87	33.429	
4,600.0	4,532.1	4,445.7	4,404.4	19.4	17.3	150.45	583.5	134.4	1,113.9	1,080.3	33.60	33.154	
4,667.9	4,600.0	4,512.8	4,470.7	19.6	17.6	48.56	593.4	135.9	1,122.4	1,088.3	34.08	32.934	
4,700.0	4,632.1	4,544.6	4,502.1	19.7	17.7	48.41	598.1	136.6	1,126.1	1,091.8	34.31	32.825	
4,800.0	4,732.1	4,643.4	4,599.8	20.0	18.1	47.92	612.8	138.7	1,137.7	1,102.7	35.01	32.496	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S12-T22N-R6W - VCU L12-2206 04H (206H) - OH - PLAN #1 — Offset Site Error: 0.0 ft

Survey Program: 0-MWD+HDGM — Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
4,884.8	4,816.9	4,727.3	4,682.7	20.2	18.5	47.52	625.2	140.6	1,147.6	1,112.0	35.61	32.229	
4,900.0	4,832.1	4,742.3	4,697.6	20.2	18.5	-91.28	627.5	140.9	1,149.4	1,113.7	35.71	32.183	
4,950.0	4,882.0	4,791.2	4,746.0	20.4	18.7	-91.08	634.7	142.0	1,155.3	1,119.3	36.05	32.048	
5,000.0	4,931.3	4,839.3	4,793.5	20.5	18.9	-91.06	641.9	143.1	1,161.4	1,125.1	36.37	31.931	
5,050.0	4,979.8	4,883.4	4,837.2	20.6	19.1	-91.08	647.6	144.8	1,167.9	1,131.2	36.66	31.860	
5,100.0	5,027.1	4,927.7	4,881.2	20.7	19.3	-91.09	651.1	149.1	1,174.7	1,137.8	36.93	31.812	
5,150.0	5,072.7	4,973.0	4,925.9	20.8	19.4	-91.08	652.3	155.9	1,182.0	1,144.8	37.19	31.778	
5,200.0	5,116.4	5,019.5	4,971.3	20.9	19.6	-91.07	650.8	165.6	1,189.5	1,152.1	37.46	31.751	
5,250.0	5,157.9	5,067.2	5,017.1	21.0	19.7	-91.05	646.7	178.2	1,197.4	1,159.7	37.74	31.725	
5,300.0	5,196.7	5,116.3	5,063.0	21.1	19.8	-91.03	639.5	194.0	1,205.5	1,167.5	38.04	31.691	
5,350.0	5,232.7	5,166.9	5,108.8	21.1	19.9	-91.01	629.2	213.1	1,213.8	1,175.4	38.36	31.641	
5,400.0	5,265.4	5,219.3	5,154.0	21.2	20.0	-91.00	615.4	235.7	1,222.1	1,183.4	38.72	31.566	
5,450.0	5,294.8	5,273.6	5,198.1	21.3	20.1	-90.98	597.9	261.9	1,230.6	1,191.4	39.12	31.454	
5,500.0	5,320.5	5,330.0	5,240.7	21.4	20.2	-90.98	576.5	292.1	1,238.9	1,199.3	39.59	31.291	
5,550.0	5,342.4	5,388.6	5,280.9	21.5	20.2	-90.98	551.0	326.2	1,247.1	1,207.0	40.15	31.065	
5,600.0	5,360.3	5,449.7	5,318.1	21.6	20.3	-90.98	521.1	364.2	1,255.1	1,214.3	40.80	30.761	
5,650.0	5,374.1	5,513.2	5,351.1	21.8	20.3	-90.98	486.7	406.3	1,262.8	1,221.2	41.62	30.341	
5,700.0	5,383.6	5,579.4	5,378.9	22.1	20.6	-90.98	447.9	452.0	1,270.0	1,227.4	42.53	29.858	
5,750.0	5,388.8	5,648.1	5,400.3	22.5	21.3	-90.97	404.9	501.0	1,276.6	1,233.0	43.66	29.243	
5,788.8	5,389.8	5,703.0	5,411.8	22.9	21.8	-90.94	369.0	540.9	1,281.3	1,236.7	44.64	28.701	
5,800.0	5,389.8	5,719.2	5,414.2	23.1	22.0	-91.06	358.1	552.7	1,282.6	1,237.6	44.95	28.533	
5,900.0	5,389.1	5,845.3	5,419.2	24.3	23.6	-91.30	271.8	644.2	1,292.3	1,244.5	47.80	27.035	
6,000.0	5,388.4	5,944.9	5,418.5	25.8	25.1	-91.29	203.1	716.3	1,301.5	1,250.7	50.75	25.646	
6,100.0	5,387.7	6,044.4	5,417.8	27.4	26.8	-91.29	134.3	788.3	1,310.6	1,256.6	54.02	24.263	
6,200.0	5,387.0	6,144.0	5,417.1	29.2	28.6	-91.28	65.6	860.4	1,319.8	1,262.3	57.56	22.931	
6,300.0	5,386.3	6,243.6	5,416.4	31.1	30.5	-91.27	-3.1	932.5	1,329.0	1,267.6	61.32	21.674	
6,400.0	5,385.6	6,343.2	5,415.7	33.1	32.5	-91.26	-71.8	1,004.5	1,338.1	1,272.9	65.26	20.505	
6,500.0	5,384.9	6,442.7	5,415.0	35.1	34.6	-91.25	-140.6	1,076.6	1,347.3	1,277.9	69.36	19.426	
6,532.6	5,384.7	6,475.2	5,414.8	35.8	35.2	-91.25	-163.0	1,100.1	1,350.3	1,279.6	70.72	19.093	
6,600.0	5,384.2	6,542.4	5,414.3	37.2	36.7	-91.25	-209.4	1,148.7	1,355.3	1,281.7	73.60	18.415	
6,700.0	5,383.5	6,642.4	5,413.6	39.4	38.9	-91.27	-278.3	1,221.0	1,358.3	1,280.3	78.02	17.411	
6,715.2	5,383.4	6,657.6	5,413.5	39.8	39.3	-91.27	-288.8	1,232.0	1,358.3	1,279.6	78.70	17.259	
6,800.0	5,382.8	6,742.4	5,412.9	41.7	41.2	-91.27	-347.3	1,293.4	1,358.0	1,275.4	82.57	16.447	
6,900.0	5,382.1	6,842.4	5,412.2	44.0	43.5	-91.27	-416.4	1,365.7	1,357.6	1,270.4	87.20	15.569	
7,000.0	5,381.4	6,942.4	5,411.5	46.4	45.8	-91.27	-485.4	1,438.1	1,357.2	1,265.3	91.90	14.769	
7,100.0	5,380.7	7,042.4	5,410.8	48.8	48.2	-91.27	-554.4	1,510.5	1,356.9	1,260.2	96.66	14.038	
7,200.0	5,380.0	7,142.4	5,410.1	51.2	50.6	-91.27	-623.4	1,582.8	1,356.5	1,255.0	101.46	13.370	
7,300.0	5,379.3	7,242.4	5,409.4	53.6	53.0	-91.27	-692.4	1,655.2	1,356.1	1,249.8	106.31	12.757	
7,400.0	5,378.6	7,342.4	5,408.7	56.0	55.4	-91.27	-761.4	1,727.5	1,355.7	1,244.5	111.19	12.193	
7,500.0	5,377.9	7,442.4	5,408.0	58.5	57.9	-91.27	-830.5	1,799.9	1,355.4	1,239.2	116.11	11.673	
7,600.0	5,377.2	7,542.4	5,407.3	61.0	60.3	-91.27	-899.5	1,872.3	1,355.0	1,233.9	121.05	11.194	
7,700.0	5,376.5	7,642.4	5,406.6	63.5	62.8	-91.27	-968.5	1,944.6	1,354.6	1,228.6	126.02	10.749	
7,800.0	5,375.8	7,742.4	5,405.9	66.0	65.3	-91.28	-1,037.5	2,017.0	1,354.2	1,223.2	131.01	10.337	
7,900.0	5,375.1	7,842.4	5,405.2	68.5	67.8	-91.28	-1,106.5	2,089.4	1,353.9	1,217.8	136.02	9.953	
8,000.0	5,374.4	7,942.4	5,404.5	71.0	70.3	-91.28	-1,175.5	2,161.7	1,353.5	1,212.4	141.05	9.596	
8,100.0	5,373.7	8,042.4	5,403.8	73.5	72.8	-91.28	-1,244.6	2,234.1	1,353.1	1,207.0	146.09	9.262	
8,200.0	5,373.0	8,142.4	5,403.1	76.0	75.3	-91.28	-1,313.6	2,306.4	1,352.7	1,201.6	151.15	8.950	
8,300.0	5,372.3	8,242.4	5,402.4	78.6	77.9	-91.28	-1,382.6	2,378.8	1,352.4	1,196.1	156.22	8.657	
8,400.0	5,371.6	8,342.4	5,401.7	81.1	80.4	-91.28	-1,451.6	2,451.2	1,352.0	1,190.7	161.30	8.382	
8,500.0	5,370.9	8,442.4	5,401.0	83.7	83.0	-91.28	-1,520.6	2,523.5	1,351.6	1,185.2	166.40	8.123	
8,600.0	5,370.2	8,542.4	5,400.3	86.2	85.5	-91.28	-1,589.6	2,595.9	1,351.2	1,179.7	171.50	7.879	
8,700.0	5,369.5	8,642.4	5,399.6	88.8	88.0	-91.28	-1,658.7	2,668.2	1,350.9	1,174.3	176.61	7.649	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Offset Design S12-T22N-R6W - VCU L12-2206 04H (206H) - OH - PLAN #1 — Offset Site Error: 0.0 ft

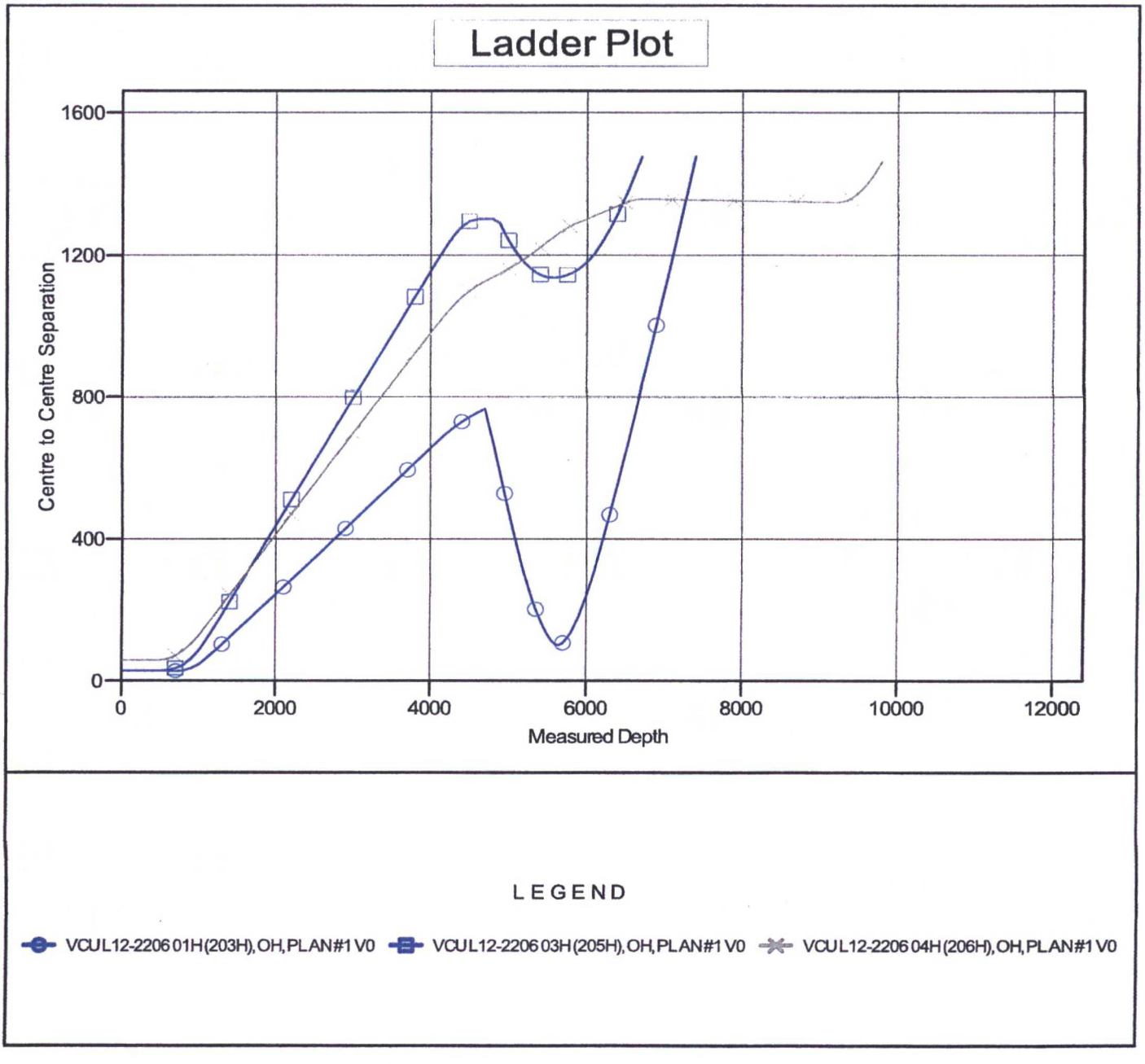
Survey Program: 0-MWD+HDGM — Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
8,800.0	5,368.8	8,742.4	5,398.9	91.3	90.6	-91.28	-1,727.7	2,740.6	1,350.5	1,168.8	181.73	7.431	
8,900.0	5,368.1	8,842.4	5,398.2	93.9	93.2	-91.28	-1,796.7	2,813.0	1,350.1	1,163.3	186.86	7.225	
9,000.0	5,367.4	8,942.4	5,397.5	96.5	95.7	-91.28	-1,865.7	2,885.3	1,349.7	1,157.7	191.99	7.030	
9,100.0	5,366.8	9,042.4	5,396.8	99.0	98.3	-91.28	-1,934.7	2,957.7	1,349.4	1,152.2	197.13	6.845	
9,200.0	5,366.1	9,142.3	5,396.2	101.6	100.9	-91.28	-2,003.7	3,030.1	1,349.0	1,146.7	202.27	6.669	
9,233.9	5,365.8	9,171.2	5,395.9	102.5	101.6	-91.28	-2,023.6	3,050.9	1,348.9	1,145.0	203.89	6.616	
9,300.0	5,365.4	9,171.2	5,395.9	104.2	101.6	-91.28	-2,023.6	3,050.9	1,350.5	1,145.2	205.32	6.577	SF
9,400.0	5,364.7	9,171.2	5,395.9	106.8	101.6	-91.28	-2,023.6	3,050.9	1,359.1	1,152.5	206.59	6.579	
9,500.0	5,364.0	9,171.2	5,395.9	109.4	101.6	-91.28	-2,023.6	3,050.9	1,374.9	1,168.1	206.79	6.649	
9,600.0	5,363.3	9,171.2	5,395.9	111.9	101.6	-91.28	-2,023.6	3,050.9	1,397.7	1,191.7	206.00	6.785	
9,700.0	5,362.6	9,171.2	5,395.9	114.5	101.6	-91.28	-2,023.6	3,050.9	1,427.1	1,222.8	204.31	6.985	
9,800.0	5,361.9	9,171.2	5,395.9	117.1	101.6	-91.28	-2,023.6	3,050.9	1,462.8	1,261.0	201.86	7.247	

Company:	EnCana Oil & Gas (USA) Inc	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Project:	Sandoval County, NM	**TVD Reference:**	16' KB @ 7056.0ft
Reference Site:	S12-T22N-R6W	**MD Reference:**	16' KB @ 7056.0ft
Error:	0.0ft	**North Reference:**	True
Reference Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	PLAN #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to 16' KB @ 7056.0ft
Offset Depths are relative to Offset Datum
Central Meridian is -106.250000 °

Coordinates are relative to: VCU L12-2206 02H (204H)
Coordinate System is US State Plane 1983, New Mexico Central Zone
Grid Convergence at Surface is: -0.70°



ENCANA

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	1073.1	11.46	258.34	1069.3	-11.5	-56.0	2.00	258.34	-32.7	
4	4094.8	11.46	258.34	4030.7	-132.9	-644.0	0.00	0.00	-376.4	
5	4667.9	0.00	0.00	4600.0	-144.4	-700.0	2.00	180.00	-409.1	
6	4884.8	0.00	0.00	4816.9	-144.4	-700.0	0.00	0.00	-409.1	
7	5788.8	90.40	138.90	5389.8	-579.2	-320.7	10.00	138.90	165.2	
8	6532.6	90.40	138.90	5384.7	-1139.7	168.2	0.00	0.00	905.7	
9	6715.2	90.40	133.43	5383.4	-1271.4	294.6	3.00	-89.96	1088.0	
10	9915.2	90.40	133.43	5361.1	-3471.2	2618.5	0.00	0.00	4287.9	VCU 204H PBHL

Project: Sandoval County, NM
Site: S12-T22N-R6W
Well: VCU L12-2206 02H (204H)
Wellbore: OH
Design: PLAN #1

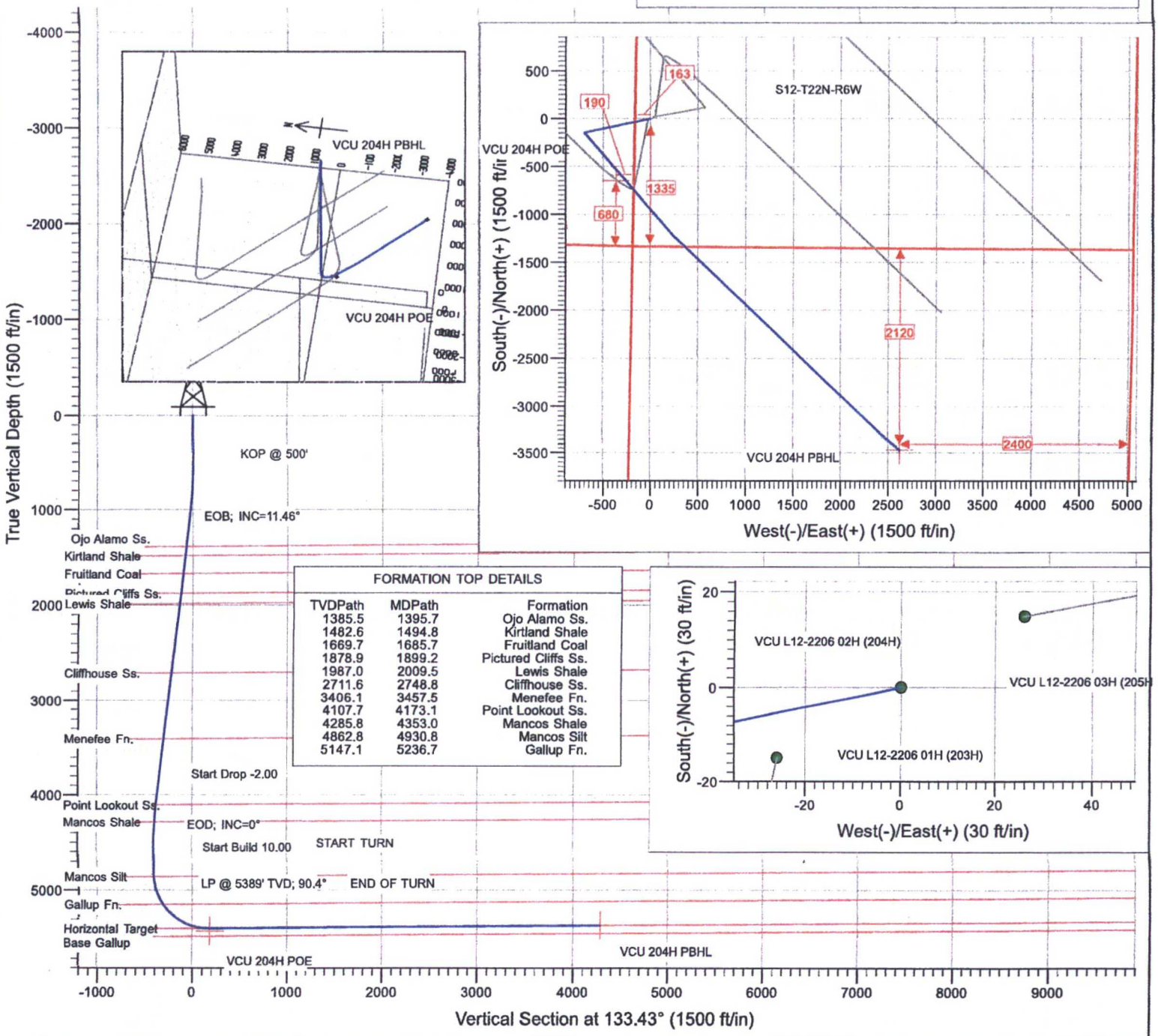
Azimuths to True North
Magnetic North: 8.95°

Magnetic Field
Strength: 49576.1snT
Dip Angle: 62.92°
Date: 8/29/2016
Model: HDGM

PLAN #1
VCU L12-2206 02H (204H)
18000L LR
16' KB @ 7056.0ft
Ground Level @ 7040.0
North American Datum 1983
Well VCU L12-2206 02H (204H), True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
User	No Target (Freehand)	133.43	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
VCU 204H PBHL	5361.1	-3471.2	2618.5	36.139695	-107.419950
VCU 204H POE	8419.7	-848.4	-383.5	36.146649	-107.430026



FORMATION TOP DETAILS

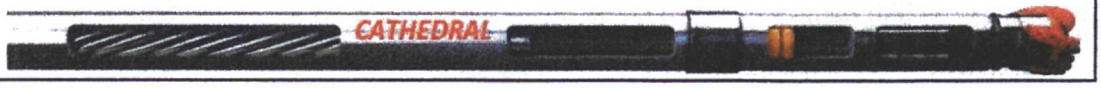
TVDPath	MDPath	Formation
1385.5	1395.7	Ojo Alamo Ss.
1482.6	1494.8	Kirtland Shale
1669.7	1685.7	Fruitland Coal
1878.9	1899.2	Pictured Cliffs Ss.
1987.0	2009.5	Lewis Shale
2711.6	2748.8	Cliffhouse Ss.
3406.1	3457.5	Menefee Fn.
4107.7	4173.1	Point Lookout Ss.
4285.8	4353.0	Mancos Shale
4862.8	4930.8	Mancos Silt
5147.1	5236.7	Gallup Fn.

CATHEDRAL

WELL DETAILS: VCU L12-2206 02H (204H)

Ground Level: 7040.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1875409.53	1292398.79	36.148430	-107.428797



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 7056.0ft
Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 7056.0ft
Site:	S12-T22N-R6W	**North Reference:**	True
Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Project	Sandoval County, NM		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	S12-T22N-R6W				
Site Position:		**Northing:**	1,874,151.44 ft	**Latitude:**	36.145101
From:	Lat/Long	**Easting:**	1,296,213.30 ft	**Longitude:**	-107.415828
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	-0.69 °

Well	VCU L12-2206 02H (204H)				
Well Position	**+N/-S**	0.0 ft	**Northing:**	1,875,409.53 ft	**Latitude:**	36.148430
	+E/-W	0.0 ft	**Easting:**	1,292,398.79 ft	**Longitude:**	-107.428797
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	0.0 ft	**Ground Level:**	7,040.0 ft

Wellbore	OH			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	8/29/2016	8.95	62.92	49,576

Design	PLAN #1			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**
	0.0	0.0	0.0	133.43

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,073.1	11.46	258.34	1,069.3	-11.5	-56.0	2.00	2.00	0.00	258.34	
4,094.8	11.46	258.34	4,030.7	-132.9	-644.0	0.00	0.00	0.00	0.00	
4,667.9	0.00	0.00	4,600.0	-144.4	-700.0	2.00	-2.00	0.00	180.00	
4,884.8	0.00	0.00	4,816.9	-144.4	-700.0	0.00	0.00	0.00	0.00	
5,788.8	90.40	138.90	5,389.8	-579.2	-320.7	10.00	10.00	0.00	138.90	
6,532.6	90.40	138.90	5,384.7	-1,139.7	168.2	0.00	0.00	0.00	0.00	
6,715.2	90.40	133.43	5,383.4	-1,271.4	294.6	3.00	0.00	-3.00	-89.96	
9,915.2	90.40	133.43	5,361.1	-3,471.2	2,618.5	0.00	0.00	0.00	0.00	VCU 204H PBHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 7056.0ft
Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 7056.0ft
Site:	S12-T22N-R6W	**North Reference:**	True
Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 500'
600.0	2.00	258.34	600.0	-0.4	-1.7	-1.0	2.00	2.00	
700.0	4.00	258.34	699.8	-1.4	-6.8	-4.0	2.00	2.00	
800.0	6.00	258.34	799.5	-3.2	-15.4	-9.0	2.00	2.00	
900.0	8.00	258.34	898.7	-5.6	-27.3	-16.0	2.00	2.00	
1,000.0	10.00	258.34	997.5	-8.8	-42.6	-24.9	2.00	2.00	
1,073.1	11.46	258.34	1,069.3	-11.5	-56.0	-32.7	2.00	2.00	EOB; INC=11.46°
1,100.0	11.46	258.34	1,095.7	-12.6	-61.2	-35.8	0.00	0.00	
1,200.0	11.46	258.34	1,193.7	-16.6	-80.7	-47.1	0.00	0.00	
1,300.0	11.46	258.34	1,291.7	-20.7	-100.1	-58.5	0.00	0.00	
1,395.7	11.46	258.34	1,385.5	-24.5	-118.7	-69.4	0.00	0.00	Ojo Alamo Ss.
1,400.0	11.46	258.34	1,389.7	-24.7	-119.6	-69.9	0.00	0.00	
1,494.8	11.46	258.34	1,482.6	-28.5	-138.0	-80.7	0.00	0.00	Kirtland Shale
1,500.0	11.46	258.34	1,487.7	-28.7	-139.0	-81.3	0.00	0.00	
1,600.0	11.46	258.34	1,585.7	-32.7	-158.5	-92.6	0.00	0.00	
1,685.7	11.46	258.34	1,669.7	-36.1	-175.2	-102.4	0.00	0.00	Fruitland Coal
1,700.0	11.46	258.34	1,683.7	-36.7	-178.0	-104.0	0.00	0.00	
1,800.0	11.46	258.34	1,781.7	-40.7	-197.4	-115.4	0.00	0.00	
1,899.2	11.46	258.34	1,878.9	-44.7	-216.7	-126.7	0.00	0.00	Pictured Cliffs Ss.
1,900.0	11.46	258.34	1,879.7	-44.7	-216.9	-126.8	0.00	0.00	
2,000.0	11.46	258.34	1,977.7	-48.8	-236.4	-138.1	0.00	0.00	
2,009.5	11.46	258.34	1,987.0	-49.1	-238.2	-139.2	0.00	0.00	Lewis Shale
2,100.0	11.46	258.34	2,075.7	-52.8	-255.8	-149.5	0.00	0.00	
2,200.0	11.46	258.34	2,173.7	-56.8	-275.3	-160.9	0.00	0.00	
2,300.0	11.46	258.34	2,271.7	-60.8	-294.7	-172.2	0.00	0.00	
2,400.0	11.46	258.34	2,369.7	-64.8	-314.2	-183.6	0.00	0.00	
2,500.0	11.46	258.34	2,467.7	-68.8	-333.7	-195.0	0.00	0.00	
2,600.0	11.46	258.34	2,565.7	-72.8	-353.1	-206.4	0.00	0.00	
2,700.0	11.46	258.34	2,663.7	-76.9	-372.6	-217.7	0.00	0.00	
2,748.8	11.46	258.34	2,711.6	-78.8	-382.1	-223.3	0.00	0.00	Cliffhouse Ss.
2,800.0	11.46	258.34	2,761.7	-80.9	-392.0	-229.1	0.00	0.00	
2,900.0	11.46	258.34	2,859.8	-84.9	-411.5	-240.5	0.00	0.00	
3,000.0	11.46	258.34	2,957.8	-88.9	-431.0	-251.9	0.00	0.00	
3,100.0	11.46	258.34	3,055.8	-92.9	-450.4	-263.2	0.00	0.00	
3,200.0	11.46	258.34	3,153.8	-96.9	-469.9	-274.6	0.00	0.00	
3,300.0	11.46	258.34	3,251.8	-100.9	-489.4	-286.0	0.00	0.00	
3,400.0	11.46	258.34	3,349.8	-105.0	-508.8	-297.4	0.00	0.00	
3,457.5	11.46	258.34	3,406.1	-107.3	-520.0	-303.9	0.00	0.00	Menefee Fn.
3,500.0	11.46	258.34	3,447.8	-109.0	-528.3	-308.7	0.00	0.00	
3,600.0	11.46	258.34	3,545.8	-113.0	-547.7	-320.1	0.00	0.00	
3,700.0	11.46	258.34	3,643.8	-117.0	-567.2	-331.5	0.00	0.00	
3,800.0	11.46	258.34	3,741.8	-121.0	-586.7	-342.9	0.00	0.00	
3,900.0	11.46	258.34	3,839.8	-125.0	-606.1	-354.2	0.00	0.00	
4,000.0	11.46	258.34	3,937.8	-129.1	-625.6	-365.6	0.00	0.00	
4,094.8	11.46	258.34	4,030.7	-132.9	-644.0	-376.4	0.00	0.00	Start Drop -2.00
4,100.0	11.36	258.34	4,035.8	-133.1	-645.1	-377.0	2.00	-2.00	
4,173.1	9.90	258.34	4,107.7	-135.8	-658.3	-384.7	2.00	-2.00	Point Lookout Ss.

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 7056.0ft
Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 7056.0ft
Site:	S12-T22N-R6W	**North Reference:**	True
Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,200.0	9.36	258.34	4,134.2	-136.7	-662.7	-387.3	2.00	-2.00	
4,300.0	7.36	258.34	4,233.1	-139.6	-676.9	-395.6	2.00	-2.00	
4,353.0	6.30	258.34	4,285.8	-140.9	-683.1	-399.2	2.00	-2.00	Mancos Shale
4,400.0	5.36	258.34	4,332.5	-141.9	-687.7	-401.9	2.00	-2.00	
4,500.0	3.36	258.34	4,432.2	-143.4	-695.2	-406.3	2.00	-2.00	
4,600.0	1.36	258.34	4,532.1	-144.2	-699.2	-408.6	2.00	-2.00	
4,667.9	0.00	0.00	4,600.0	-144.4	-700.0	-409.1	2.00	-2.00	EOD; INC=0°
4,700.0	0.00	0.00	4,632.1	-144.4	-700.0	-409.1	0.00	0.00	
4,800.0	0.00	0.00	4,732.1	-144.4	-700.0	-409.1	0.00	0.00	
4,884.8	0.00	0.00	4,816.9	-144.4	-700.0	-409.1	0.00	0.00	Start Build 10.00
4,900.0	1.52	138.90	4,832.1	-144.6	-699.9	-408.9	9.99	9.99	
4,930.8	4.60	138.90	4,862.8	-145.8	-698.8	-407.2	10.00	10.00	Mancos Silt
5,000.0	11.52	138.90	4,931.3	-153.1	-692.4	-397.6	10.00	10.00	
5,100.0	21.52	138.90	5,027.1	-174.5	-673.7	-369.3	10.00	10.00	
5,200.0	31.52	138.90	5,116.5	-208.1	-644.4	-324.9	10.00	10.00	
5,236.7	35.19	138.90	5,147.1	-223.3	-631.1	-304.8	10.00	10.00	Gallup Fn.
5,300.0	41.52	138.90	5,196.7	-252.9	-605.4	-265.8	10.00	10.00	
5,400.0	51.52	138.90	5,265.4	-307.5	-557.7	-193.6	10.00	10.00	
5,500.0	61.52	138.90	5,320.5	-370.3	-503.0	-110.7	10.00	10.00	
5,600.0	71.52	138.90	5,360.3	-439.3	-442.7	-19.5	10.00	10.00	
5,700.0	81.52	138.90	5,383.6	-512.5	-378.9	77.2	10.00	10.00	
5,788.8	90.40	138.90	5,389.8	-579.2	-320.7	165.2	10.00	10.00	LP @ 5389' TVD; 90.4°
5,800.0	90.40	138.90	5,389.8	-587.6	-313.4	176.4	0.00	0.00	
5,900.0	90.40	138.90	5,389.1	-663.0	-247.6	276.0	0.00	0.00	
6,000.0	90.40	138.90	5,388.4	-738.3	-181.9	375.5	0.00	0.00	
6,100.0	90.40	138.90	5,387.7	-813.7	-116.1	475.0	0.00	0.00	
6,200.0	90.40	138.90	5,387.0	-889.1	-50.4	574.6	0.00	0.00	
6,300.0	90.40	138.90	5,386.3	-964.4	15.3	674.1	0.00	0.00	
6,400.0	90.40	138.90	5,385.6	-1,039.8	81.1	773.7	0.00	0.00	
6,500.0	90.40	138.90	5,384.9	-1,115.1	146.8	873.2	0.00	0.00	
6,532.6	90.40	138.90	5,384.7	-1,139.7	168.2	905.7	0.00	0.00	START TURN
6,600.0	90.40	136.88	5,384.2	-1,189.7	213.4	972.9	3.00	0.00	
6,700.0	90.40	133.89	5,383.5	-1,260.9	283.6	1,072.8	3.00	0.00	
6,715.2	90.40	133.43	5,383.4	-1,271.4	294.6	1,088.0	3.00	0.00	END OF TURN
6,800.0	90.40	133.43	5,382.8	-1,329.6	356.2	1,172.8	0.00	0.00	
6,900.0	90.40	133.43	5,382.1	-1,398.4	428.8	1,272.8	0.00	0.00	
7,000.0	90.40	133.43	5,381.4	-1,467.1	501.5	1,372.8	0.00	0.00	
7,100.0	90.40	133.43	5,380.7	-1,535.9	574.1	1,472.8	0.00	0.00	
7,200.0	90.40	133.43	5,380.0	-1,604.6	646.7	1,572.8	0.00	0.00	
7,300.0	90.40	133.43	5,379.3	-1,673.4	719.3	1,672.8	0.00	0.00	
7,400.0	90.40	133.43	5,378.6	-1,742.1	791.9	1,772.8	0.00	0.00	
7,500.0	90.40	133.43	5,377.9	-1,810.9	864.6	1,872.8	0.00	0.00	
7,600.0	90.40	133.43	5,377.2	-1,879.6	937.2	1,972.8	0.00	0.00	
7,700.0	90.40	133.43	5,376.5	-1,948.4	1,009.8	2,072.8	0.00	0.00	
7,800.0	90.40	133.43	5,375.8	-2,017.1	1,082.4	2,172.8	0.00	0.00	
7,900.0	90.40	133.43	5,375.1	-2,085.8	1,155.0	2,272.8	0.00	0.00	
8,000.0	90.40	133.43	5,374.4	-2,154.6	1,227.7	2,372.8	0.00	0.00	
8,100.0	90.40	133.43	5,373.7	-2,223.3	1,300.3	2,472.7	0.00	0.00	
8,200.0	90.40	133.43	5,373.0	-2,292.1	1,372.9	2,572.7	0.00	0.00	
8,300.0	90.40	133.43	5,372.3	-2,360.8	1,445.5	2,672.7	0.00	0.00	
8,400.0	90.40	133.43	5,371.6	-2,429.6	1,518.1	2,772.7	0.00	0.00	
8,500.0	90.40	133.43	5,370.9	-2,498.3	1,590.8	2,872.7	0.00	0.00	

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Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 7056.0ft
Site:	S12-T22N-R6W	**North Reference:**	True
Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
8,600.0	90.40	133.43	5,370.2	-2,567.1	1,663.4	2,972.7	0.00	0.00	
8,700.0	90.40	133.43	5,369.5	-2,635.8	1,736.0	3,072.7	0.00	0.00	
8,800.0	90.40	133.43	5,368.8	-2,704.6	1,808.6	3,172.7	0.00	0.00	
8,900.0	90.40	133.43	5,368.1	-2,773.3	1,881.2	3,272.7	0.00	0.00	
9,000.0	90.40	133.43	5,367.4	-2,842.0	1,953.9	3,372.7	0.00	0.00	
9,100.0	90.40	133.43	5,366.8	-2,910.8	2,026.5	3,472.7	0.00	0.00	
9,200.0	90.40	133.43	5,366.1	-2,979.5	2,099.1	3,572.7	0.00	0.00	
9,300.0	90.40	133.43	5,365.4	-3,048.3	2,171.7	3,672.7	0.00	0.00	
9,400.0	90.40	133.43	5,364.7	-3,117.0	2,244.3	3,772.7	0.00	0.00	
9,500.0	90.40	133.43	5,364.0	-3,185.8	2,317.0	3,872.7	0.00	0.00	
9,600.0	90.40	133.43	5,363.3	-3,254.5	2,389.6	3,972.7	0.00	0.00	
9,700.0	90.40	133.43	5,362.6	-3,323.3	2,462.2	4,072.7	0.00	0.00	
9,800.0	90.40	133.43	5,361.9	-3,392.0	2,534.8	4,172.7	0.00	0.00	
9,900.0	90.40	133.43	5,361.2	-3,460.7	2,607.4	4,272.7	0.00	0.00	
9,915.2	90.40	133.43	5,361.1	-3,471.2	2,618.5	4,287.9	0.00	0.00	TD at 9915.2

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
VCU 204H PBHL - plan hits target center - Point	0.00	0.00	5,361.1	-3,471.2	2,618.5	1,871,906.81	1,294,974.94	36.138895	-107.419930
VCU 204H POE - plan misses target center by 83.3ft at 5812.6ft MD (5389.7 TVD, -597.1 N, -305.1 E) - Point	0.00	0.00	5,419.7	-648.4	-363.5	1,874,765.60	1,292,027.47	36.146649	-107.430028

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,395.7	1,385.0	Ojo Alamo Ss.		-0.40	133.43
1,494.8	1,482.0	Kirtland Shale		-0.40	133.43
1,685.7	1,669.0	Fruitland Coal		-0.40	133.43
1,899.2	1,878.0	Pictured Cliffs Ss.		-0.40	133.43
2,009.5	1,986.0	Lewis Shale		-0.40	133.43
2,748.8	2,710.0	Cliffhouse Ss.		-0.40	133.43
3,457.5	3,404.0	Menefee Fn.		-0.40	133.43
4,173.1	4,105.0	Point Lookout Ss.		-0.40	133.43
4,353.0	4,283.0	Mancos Shale		-0.40	133.43
4,930.8	4,860.0	Mancos Silt		-0.40	133.43
5,236.7	5,145.0	Gallup Fn.		-0.40	133.43

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well VCU L12-2206 02H (204H)
Company:	EnCana Oil & Gas (USA) Inc	**TVD Reference:**	16' KB @ 7056.0ft
Project:	Sandoval County, NM	**MD Reference:**	16' KB @ 7056.0ft
Site:	S12-T22N-R6W	**North Reference:**	True
Well:	VCU L12-2206 02H (204H)	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
500.0	500.0	0.0	0.0	KOP @ 500'
1,073.1	1,069.3	-11.5	-56.0	EOB; INC=11.46°
4,094.8	4,030.7	-132.9	-644.0	Start Drop -2.00
4,667.9	4,600.0	-144.4	-700.0	EOD; INC=0°
4,884.8	4,816.9	-144.4	-700.0	Start Build 10.00
5,788.8	5,389.8	-579.2	-320.7	LP @ 5389' TVD; 90.4°
6,532.6	5,384.7	-1,139.7	168.2	START TURN
6,715.2	5,383.4	-1,271.4	294.6	END OF TURN
9,915.2	5,361.1	-3,471.2	2,618.5	TD at 9915.2

4. After removal of vegetation, topsoil will be segregated and windrowed on the edge of the access road. Topsoil will be defined as the top six (6) inches of soil. The stockpiled topsoil will be free of brush and tree limbs, trunks and root balls, but may include chipped or mulched material so long as it is incorporated into the topsoil stockpile.

   Topsoil will not be stripped when soils are moisture-saturated or frozen below the stripping depth.

5. All construction materials for the pipeline will consist of native borrow and subsoil accumulated during pipeline construction. If additional fill or surfacing material is required, it will be obtained from existing permitted or private sources and will be hauled in by trucks over existing access roads.

6. Construction equipment may include chain saws, a brush hog, scraper, maintainer, excavator, dozer, backhoe, hydrovac, welder, trencher, side-boom, and misc. specialty equipment. Construction of the pipeline will take approximately 2-4 weeks.

7. METHODS FOR HANDLING WASTE

A. Cuttings

1. A closed-loop system will be used. Cuttings will be moved through a shaker system on the drill rig that separates drilling fluids from the cuttings. Cuttings will be stored onsite in above-ground storage tanks. Cuttings will be pulled from the storage tanks, mixed with saw dust or similar absorbent material, and disposed of at the Envirotech, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.

2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.

3. A 20-mil liner will be installed under tanks, pumps, ancillary facilities, and truck loading/unloading areas associated with the closed-loop system.

B. Drilling Fluids

1. A closed-loop system will be used. Drilling fluids will be stored onsite in above-ground storage tanks. Upon termination of drilling operations, the drilling fluids will be recycled and transferred to other permitted closed-loop systems or returned to the vendor for reuse, as practical. Residual fluids will be vacuumed from the storage tanks and disposed of at Basin Disposal, Inc. and/or Industrial Ecosystem, Inc. waste disposal facilities.

2. The closed-loop system storage tanks will be adequately sized to ensure confinement of all fluids and will provide sufficient freeboard to prevent uncontrolled releases.

3. The closed-loop system storage tanks will be placed in bermed secondary containment sized to accommodate a minimum of 110 percent of the volume of the largest storage tank.

4. A 20-mil liner will be installed under tanks, pumps, ancillary facilities, and truck loading/unloading areas associated with the closed-loop system.

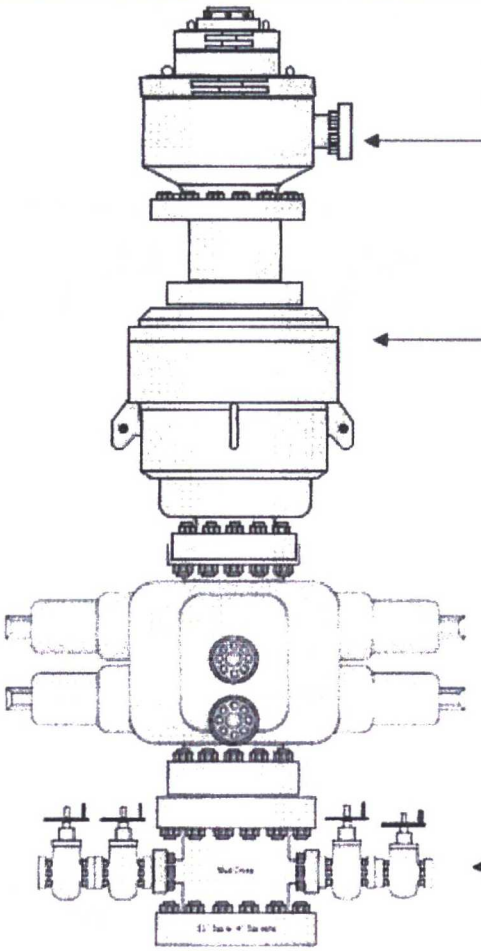
C. Flowback Water

1. The water-based solution that flows back to the surface during and after completion operations will be placed in storage tanks on the location.

WELLHEAD BLOWOUT CONTROL SYSTEM

encana

Well Name and Number:
Venado Canyon Unit 204H

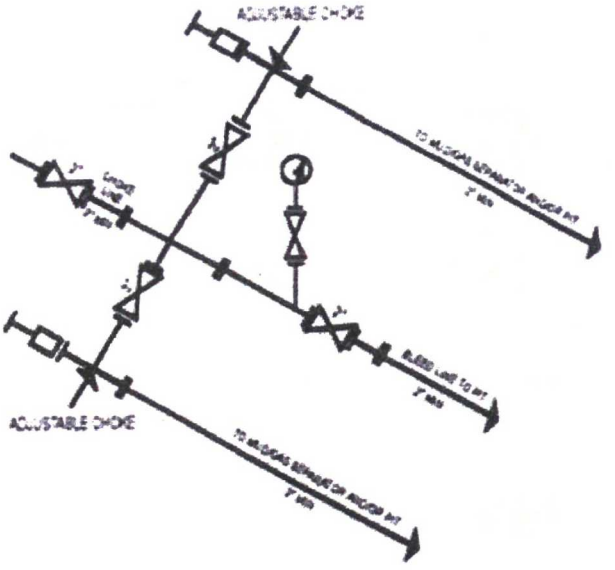


11" 3K Rotating Head

11" 3K Annular

3K Double Ram
Top: Pipe Ram
Bottom: Blind Ram
3" Outlets Below Ram

3K Mud Cross 3" gate valves



ENCANA OIL & GAS (USA) INC.

VENADO CANYON UNIT #204H

1335' FSL & 163' FWL
LOCATED IN THE SW/4 SW/4 OF SECTION 12,
T22N, R6W, N.M.P.M.,
SANDOVAL COUNTY, NEW MEXICO

DIRECTIONS

1) FROM THE INTERSECTION OF HWY 64 & HWY 550 IN BLOOMFIELD, GO SOUTH ON HWY 550 FOR 54.3 MILES TO INDIAN SERVICE ROUTE 474 ON THE RIGHT (SOUTH).
2) TURN RIGHT ONTO I.S.R. 474 AND GO 3.5 MILES TO A DIRT ROAD ON LEFT.
3) TURN LEFT AND GO 0.6 MILES TO A "Y" INTERSECTION.
4) TURN RIGHT AND GO 0.9 MILES WHERE ACCESS IS STAKED ON RIGHT SIDE OF ROAD.

WELL FLAG LOCATED AT LAT. 36.148430° N, LONG.107.428797° W (NAD 83).

ENCANA

JOB No.: VCU #204H_REV1
DATE: 05/18/16

CCI

CHENAULT CONSULTING INC.

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